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FIG. 1

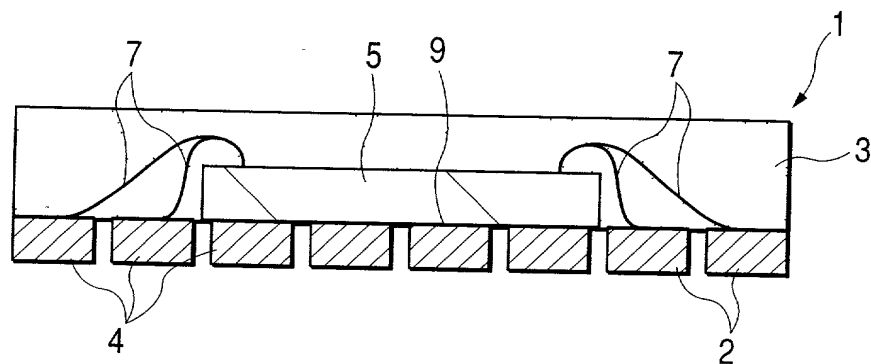


FIG. 2

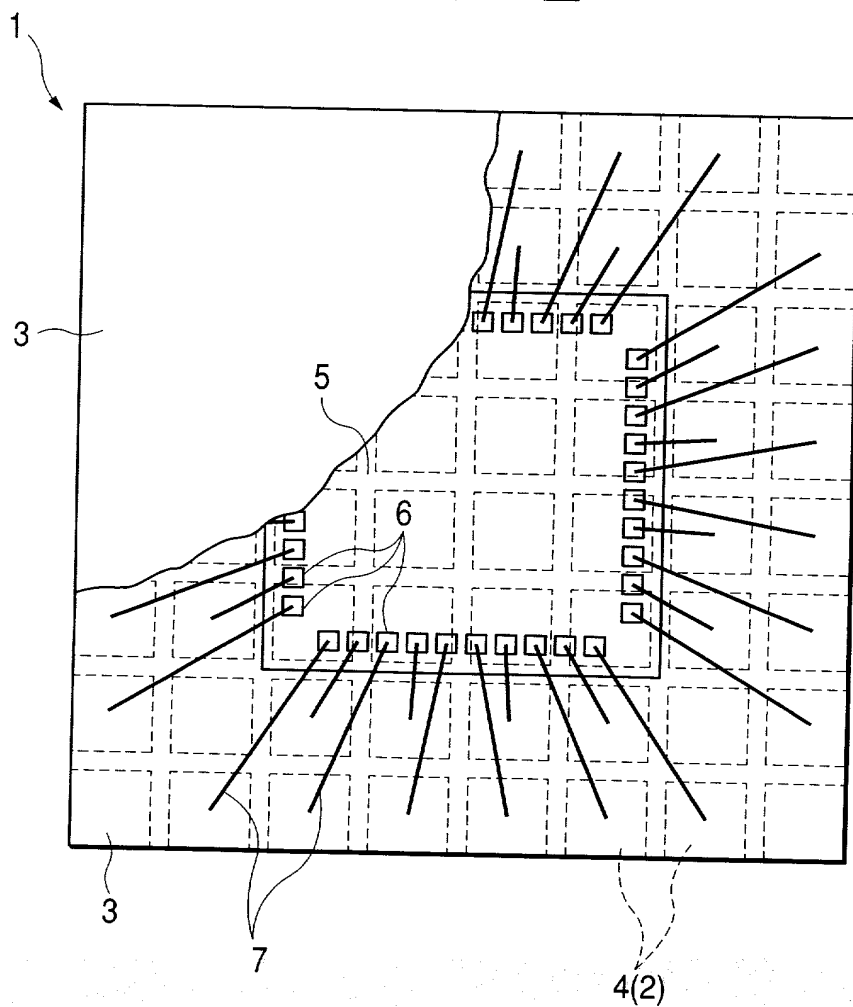


FIG. 3

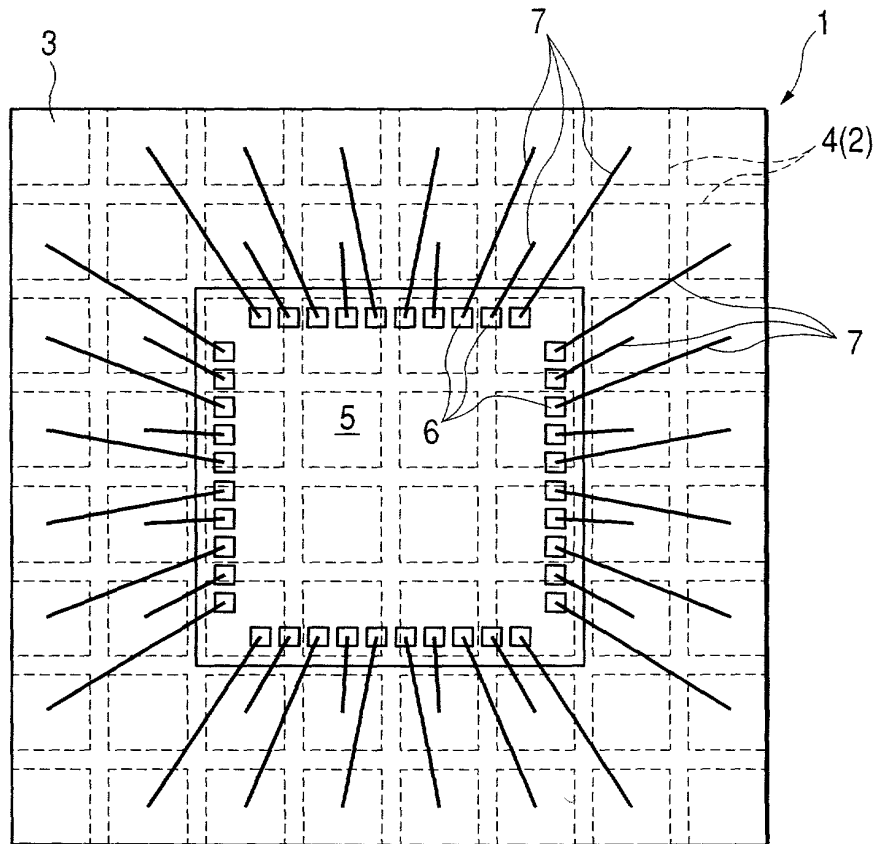


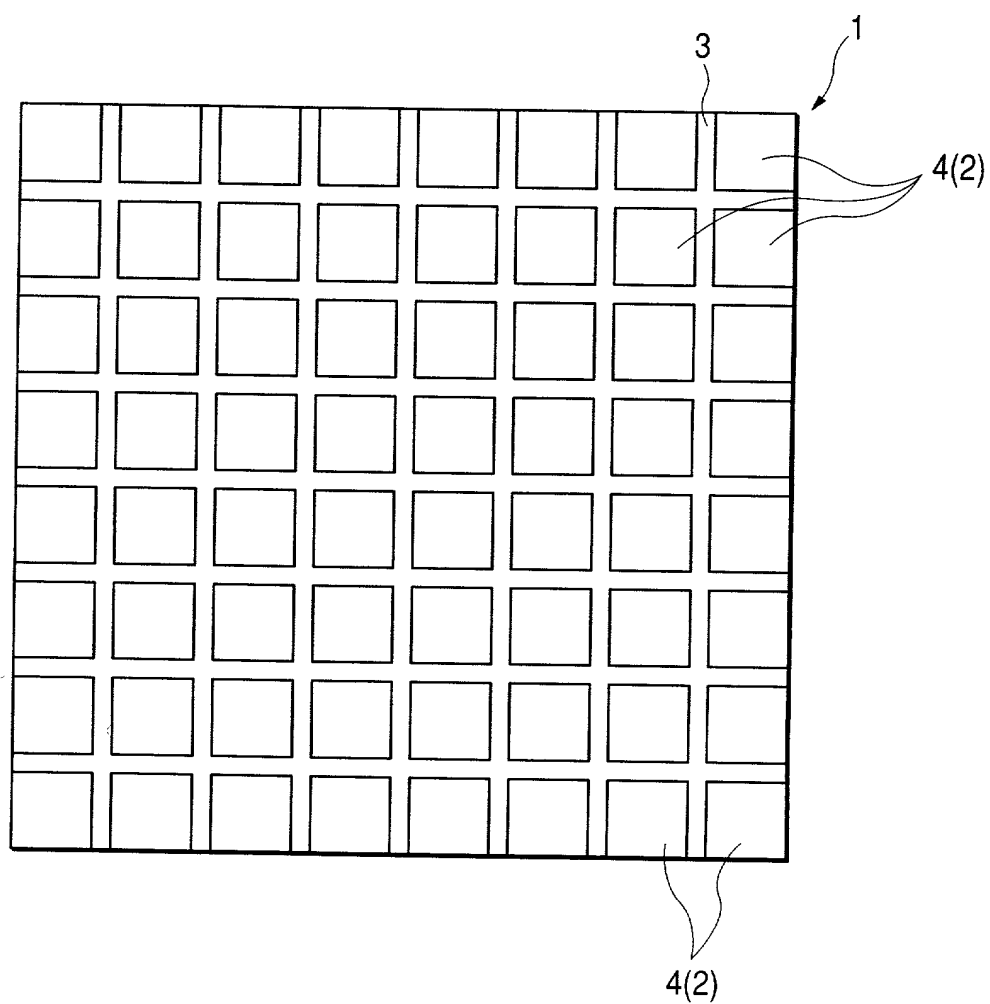
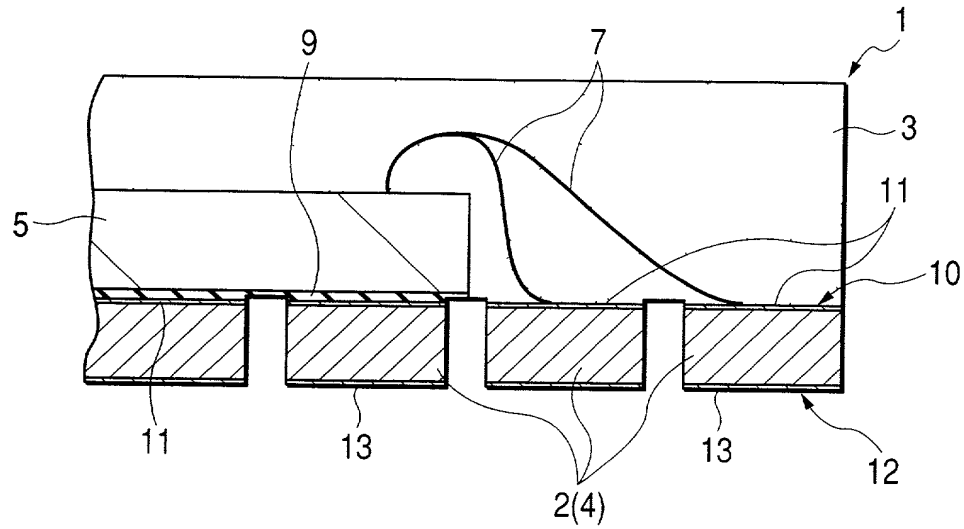
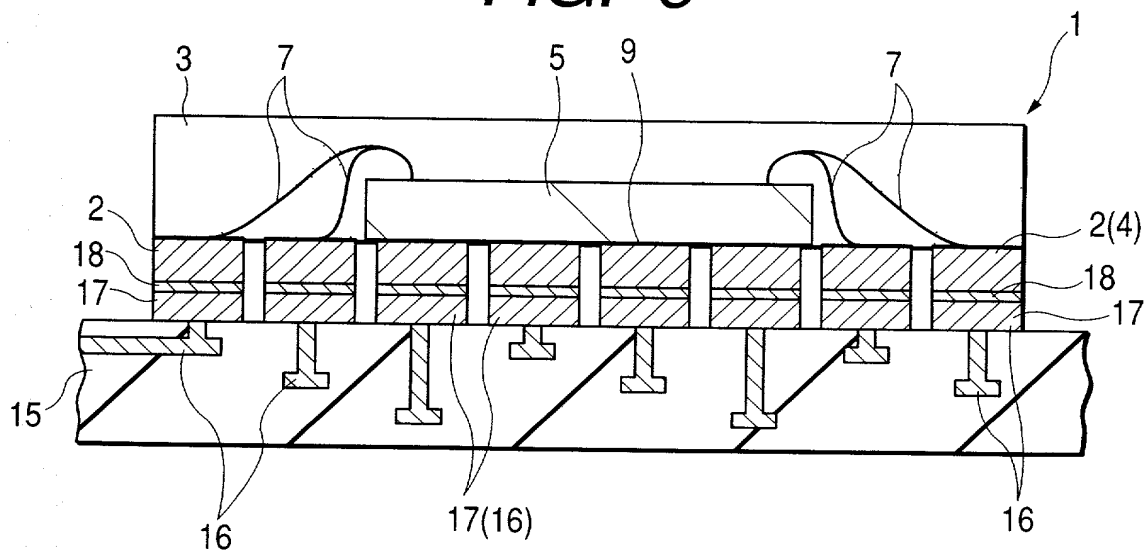
FIG. 4

FIG. 5**FIG. 6**

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FIG. 7(a)

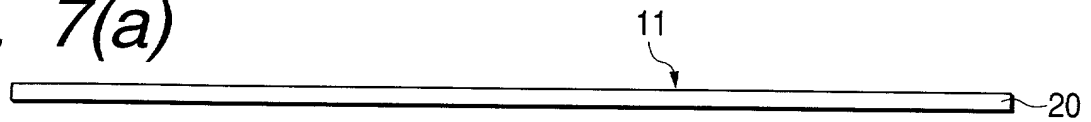


FIG. 7(b)

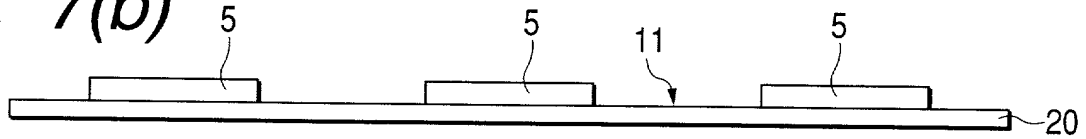


FIG. 7(c)

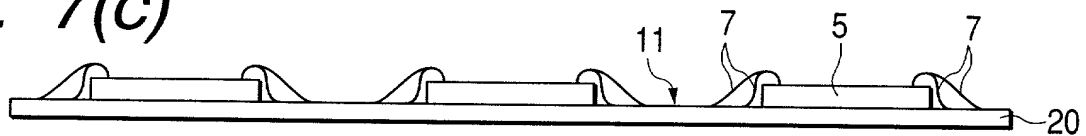


FIG. 7(d)

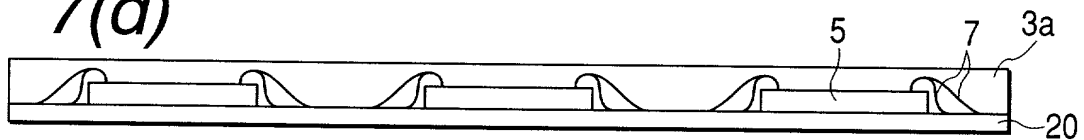


FIG. 7(e)

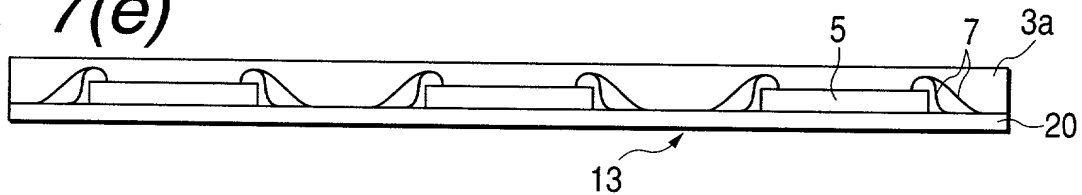


FIG. 7(f)

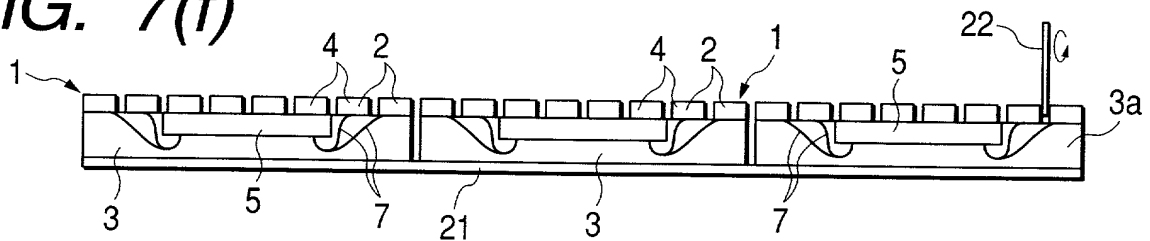


FIG. 7(g)

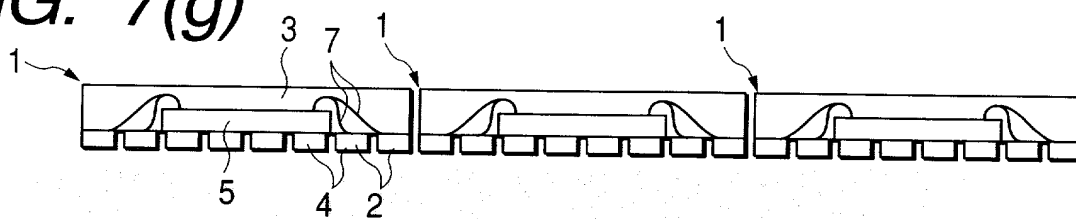
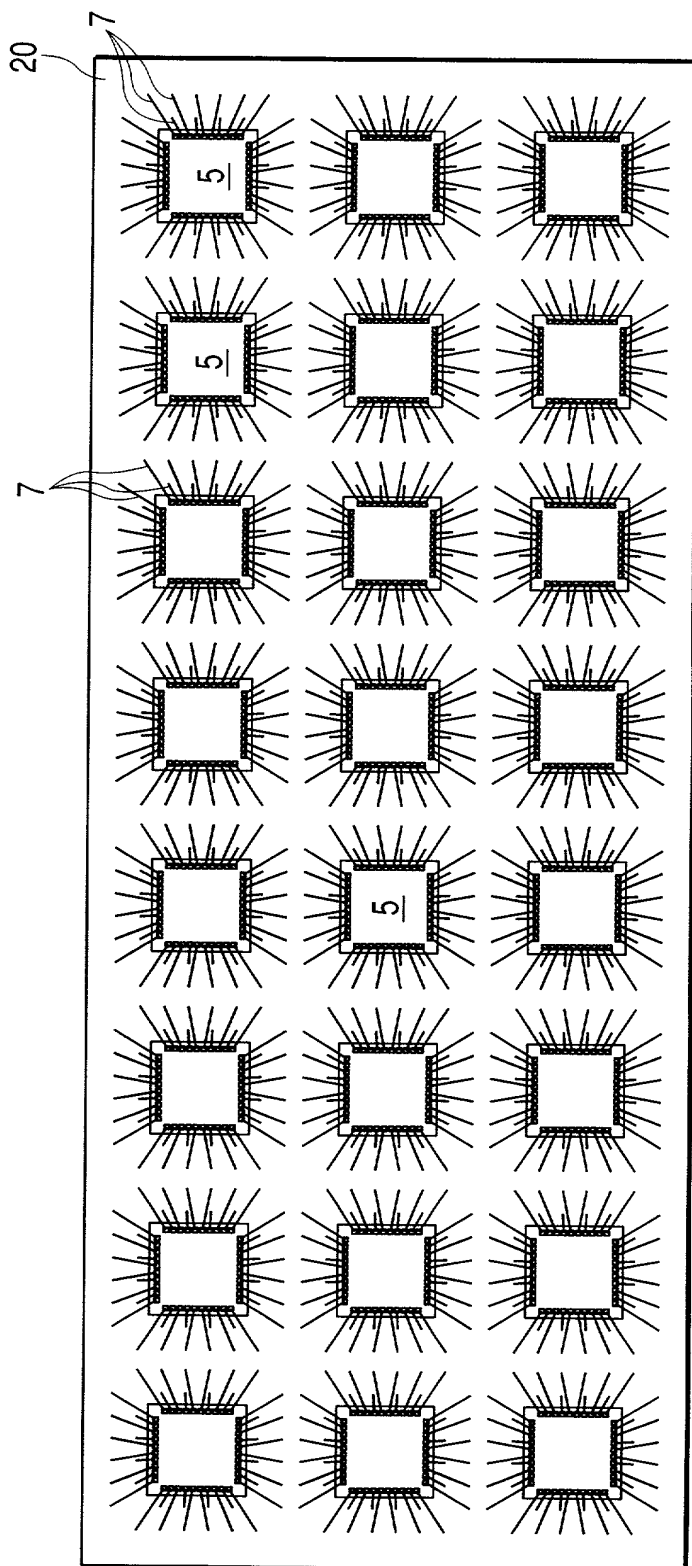


FIG. 8



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FIG. 9

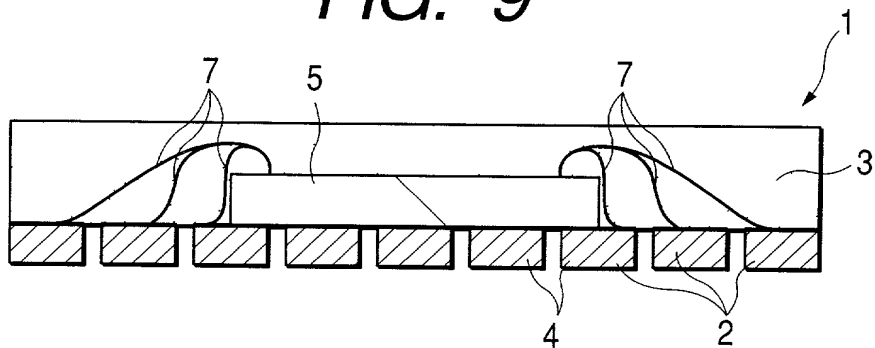
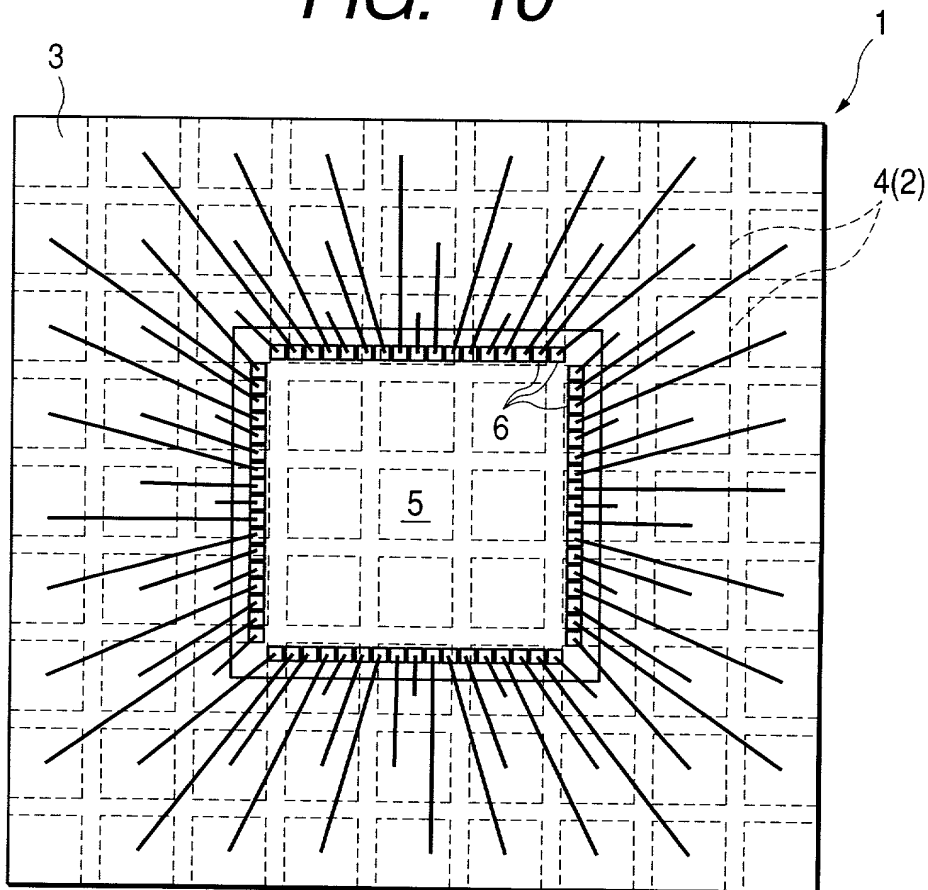


FIG. 10



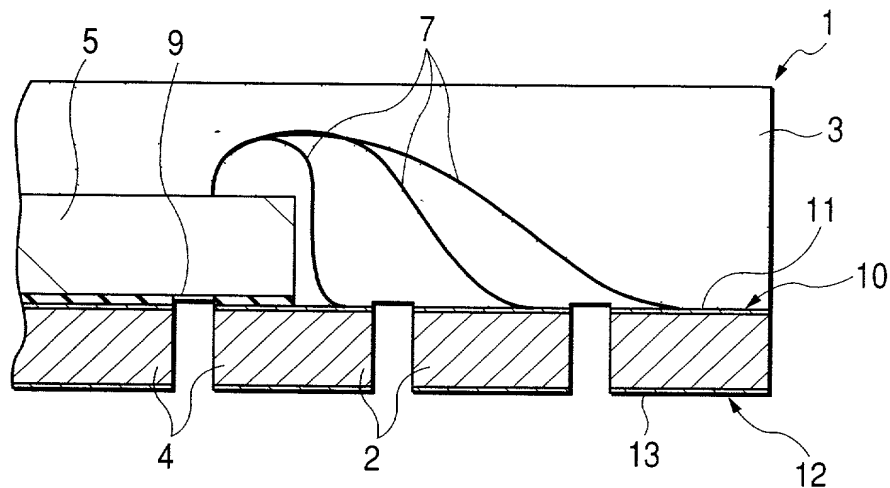


FIG. 12(b)

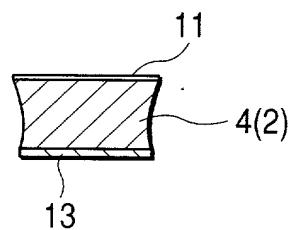
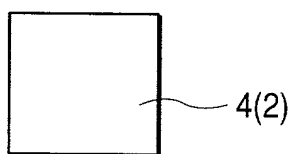


FIG. 13(b)

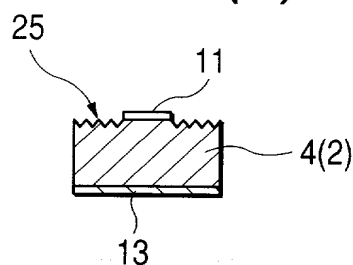


FIG. 14(a)

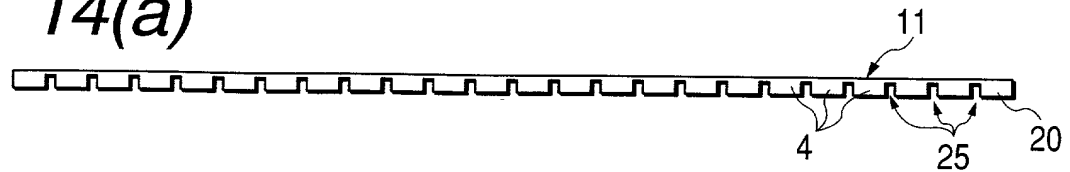


FIG. 14(b)

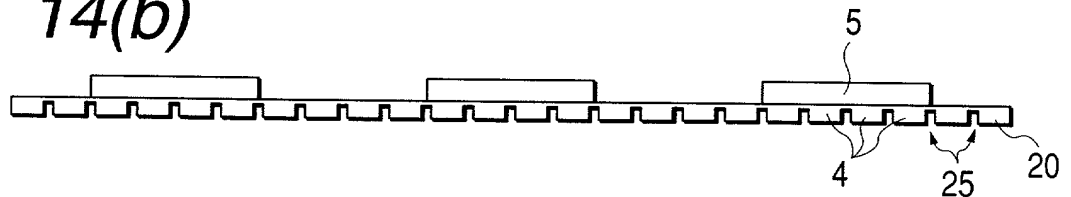


FIG. 14(c)

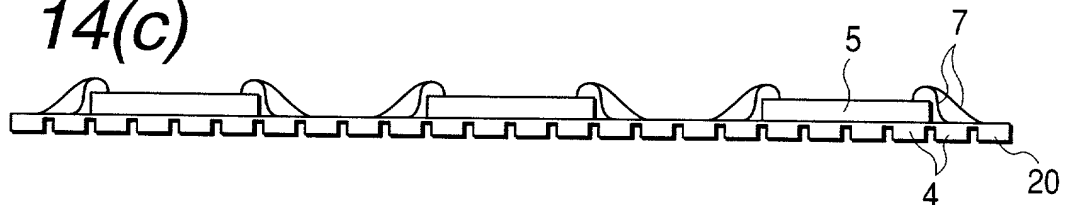


FIG. 14(d)

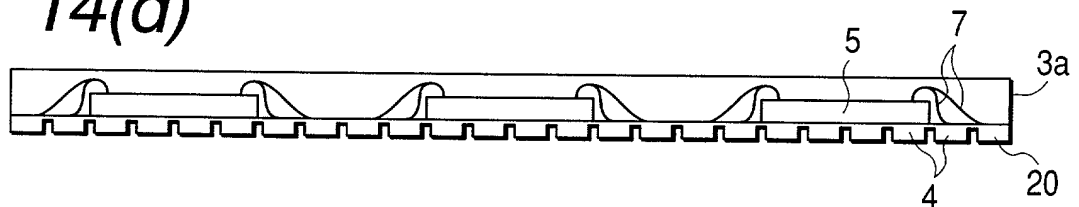


FIG. 14(e)

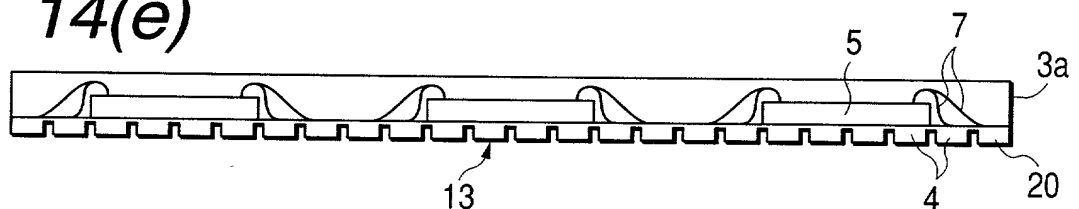


FIG. 14(f)

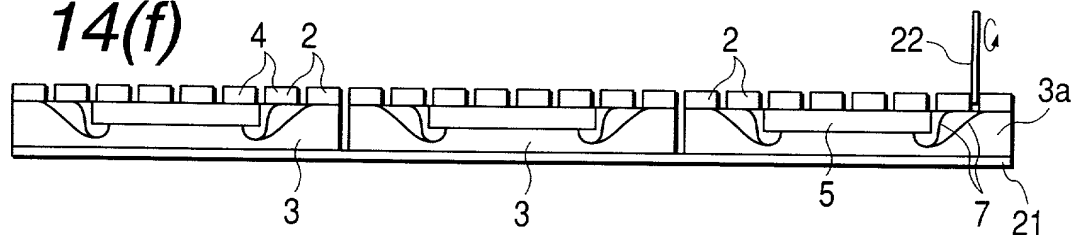
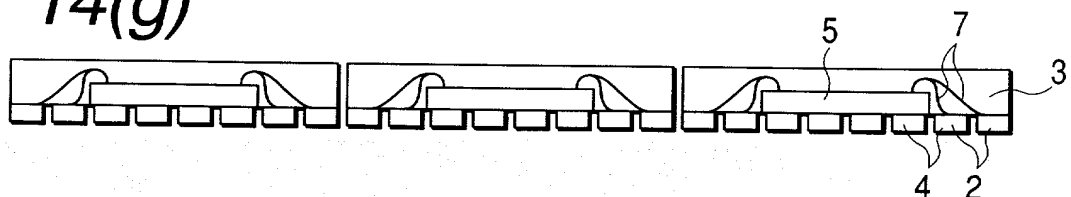
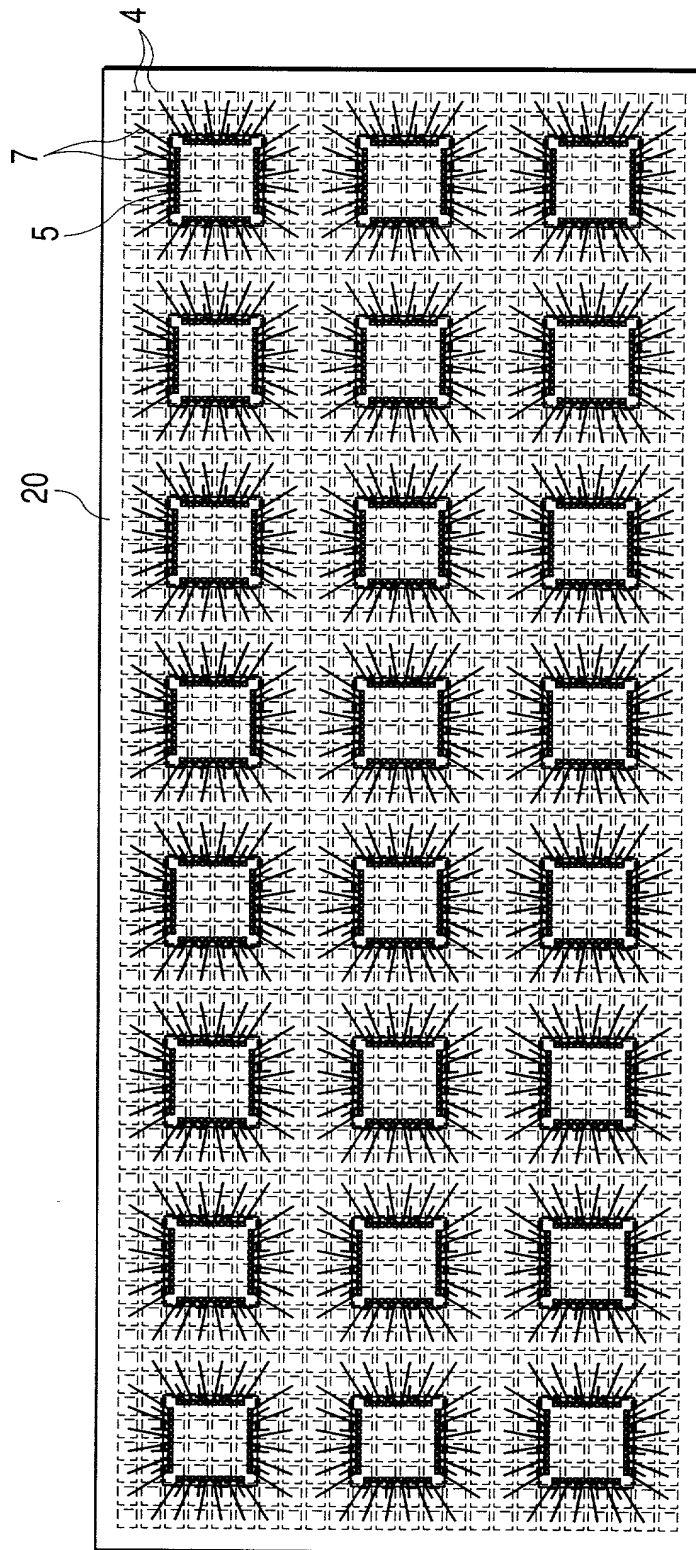


FIG. 14(g)



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FIG. 15



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FIG. 16(a)

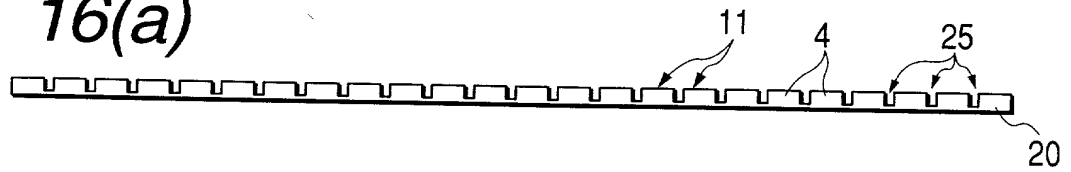


FIG. 16(b)

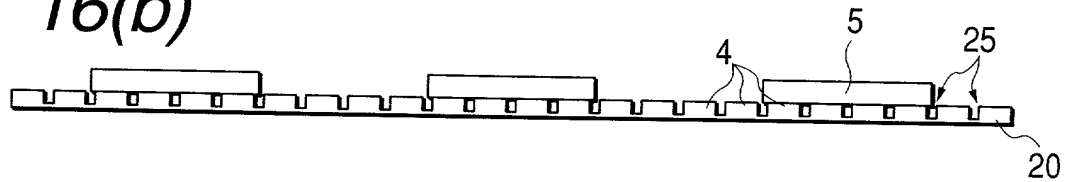


FIG. 16(c)

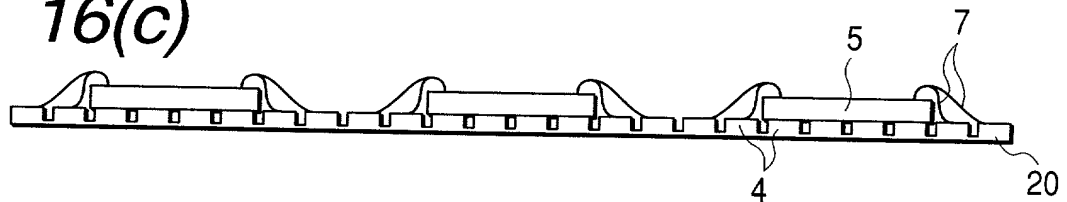


FIG. 16(d)

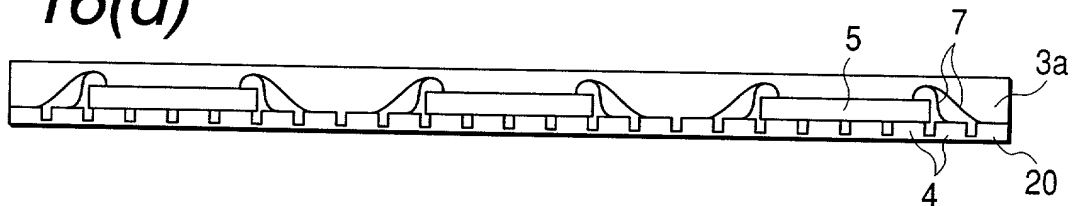


FIG. 16(e)

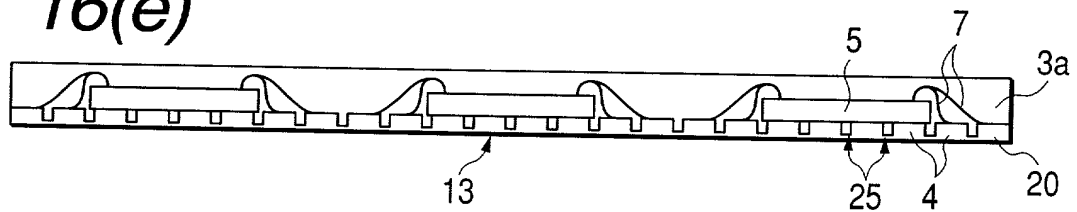


FIG. 16(f)

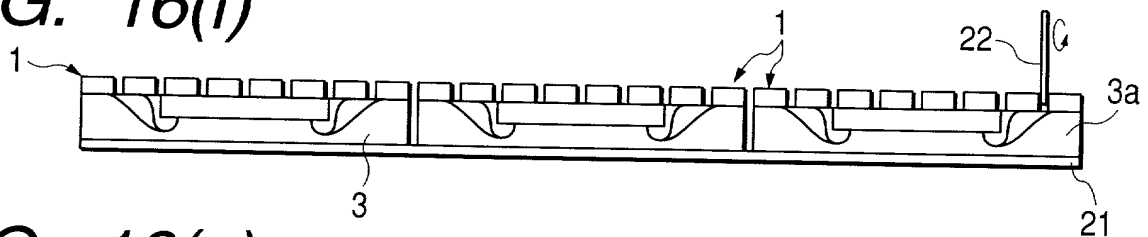
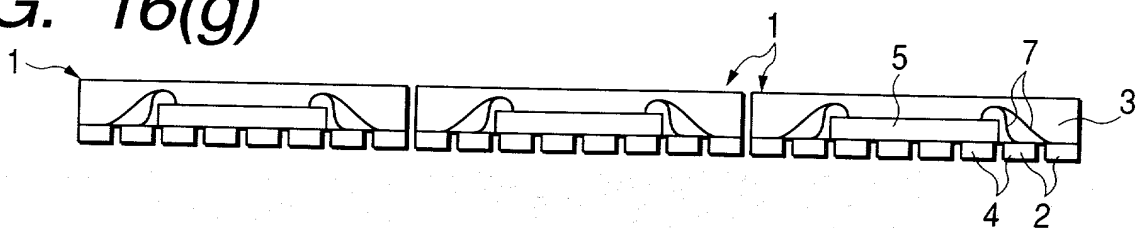


FIG. 16(g)



A detailed side cross-sectional view of a multi-layered electronic component assembly. The assembly consists of several stacked layers: a top layer (1), a middle layer (2) containing internal components (4), and a bottom layer (5). These layers are separated by vertical spacers or vias (22). The entire stack is supported by a base substrate (21). On the right side, there is a vertical protrusion (22a) and a horizontal feature (3a). Various other features are labeled with numbers: 1 points to the top surface, 2 points to the middle layer, 3 points to the bottom layer, 4 points to internal components, 5 points to the base substrate, 6 points to a small gap or feature, 7 points to a curved feature at the bottom right, and 21 points to the main body of the base substrate.

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FIG. 19

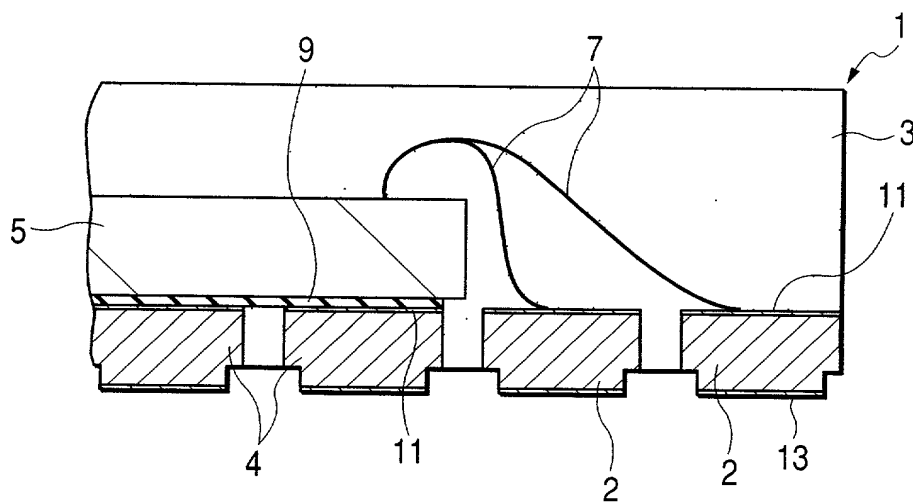


FIG. 20

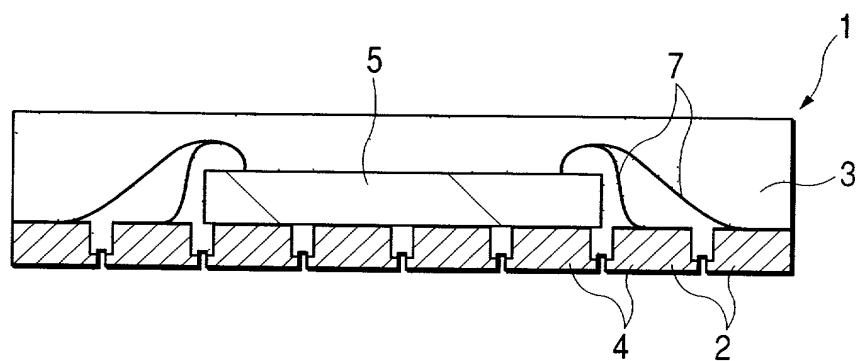


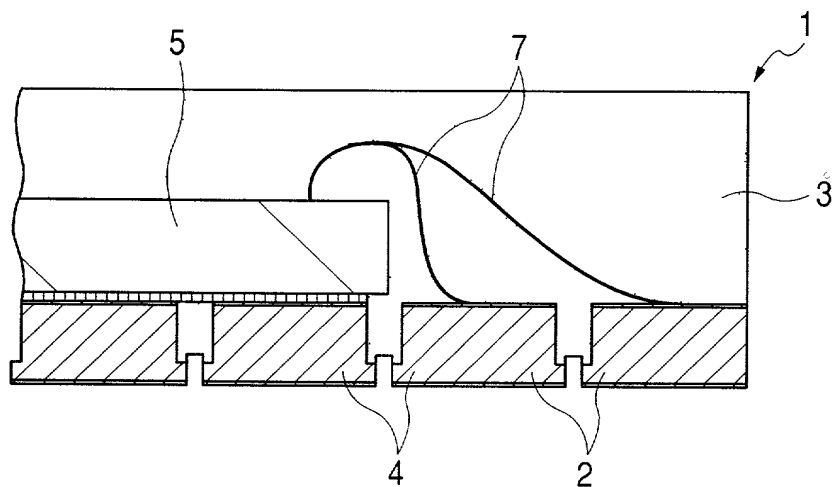
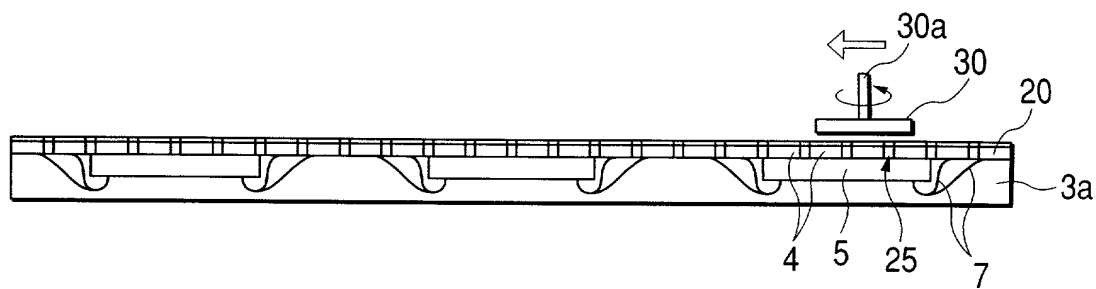
FIG. 21**FIG. 22**

FIG. 23

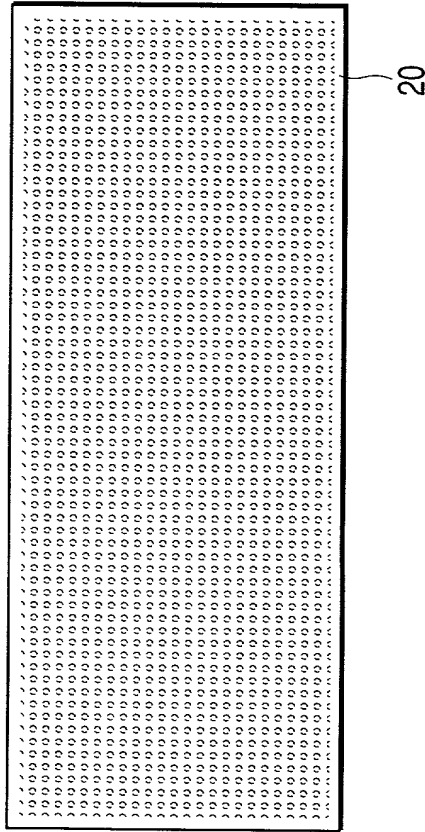
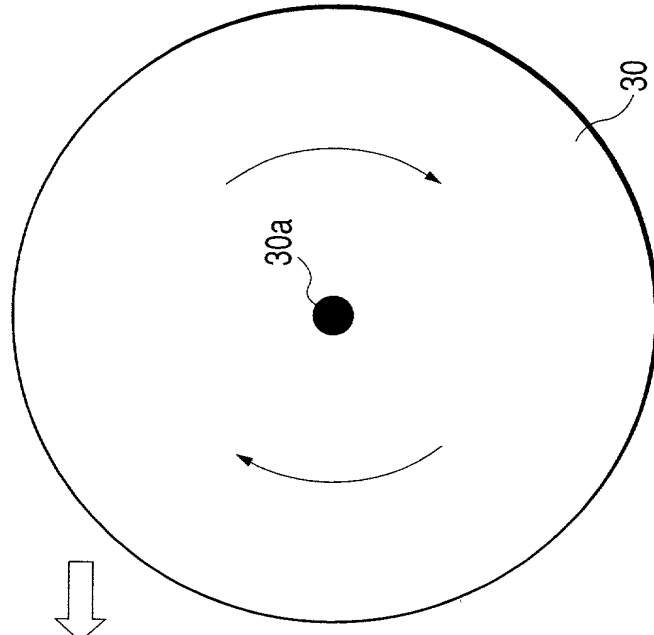


FIG. 24(a)

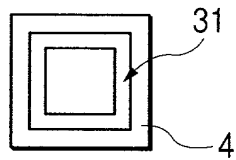


FIG. 24(b)

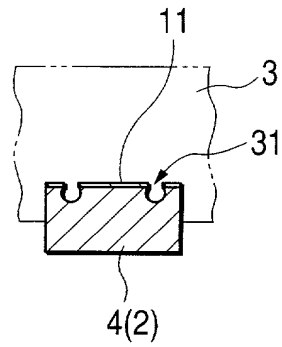


FIG. 25(a)

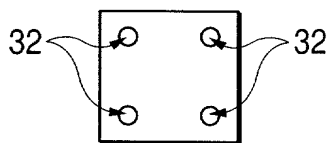
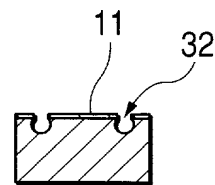


FIG. 25(b)



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FIG. 26(a)

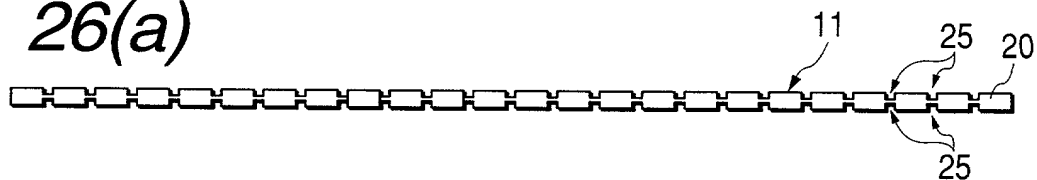


FIG. 26(b)



FIG. 26(c)

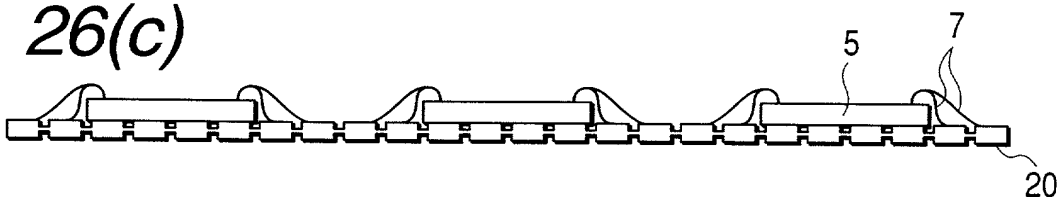


FIG. 26(d)

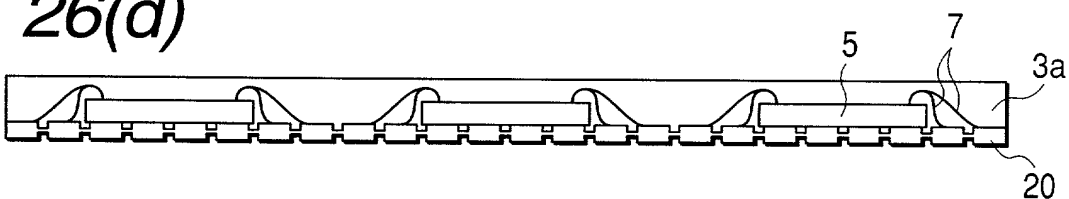


FIG. 26(e)

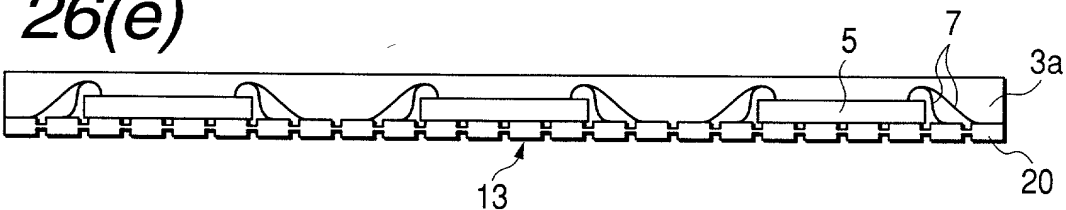


FIG. 26(f)

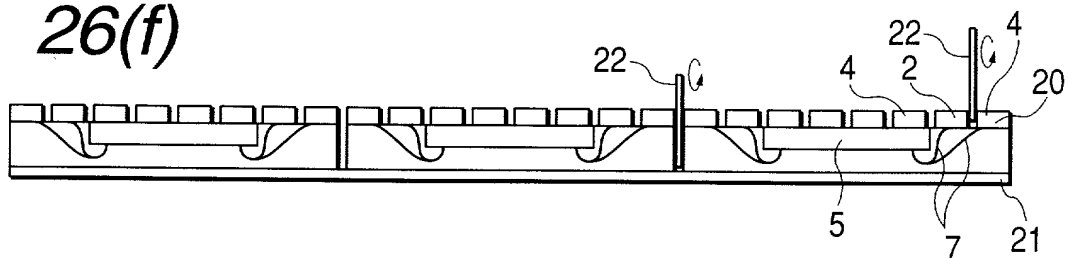
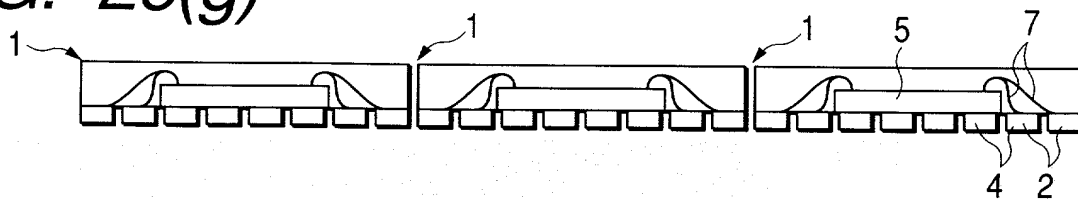
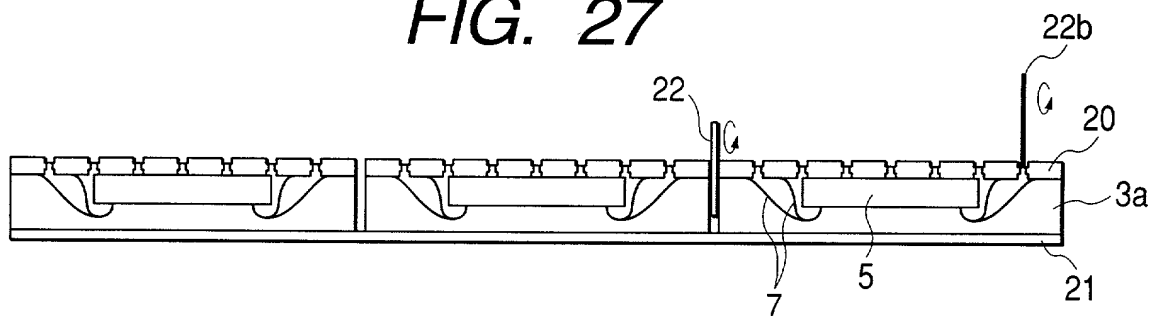
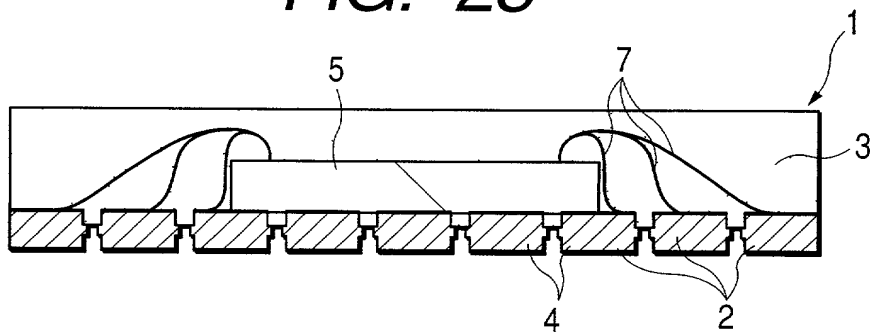
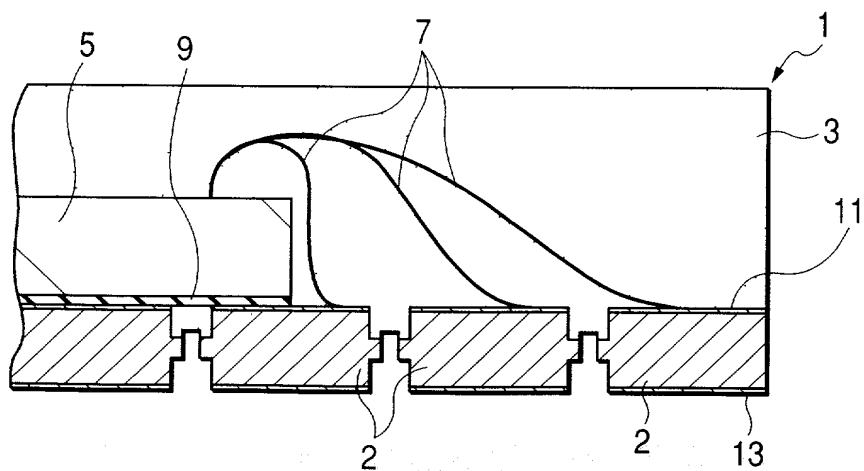
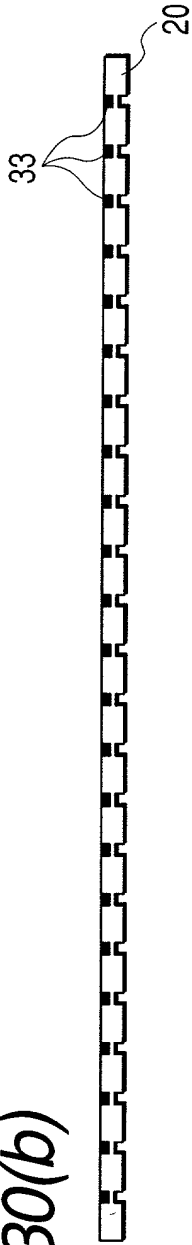


FIG. 26(g)



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FIG. 27**FIG. 28****FIG. 29**



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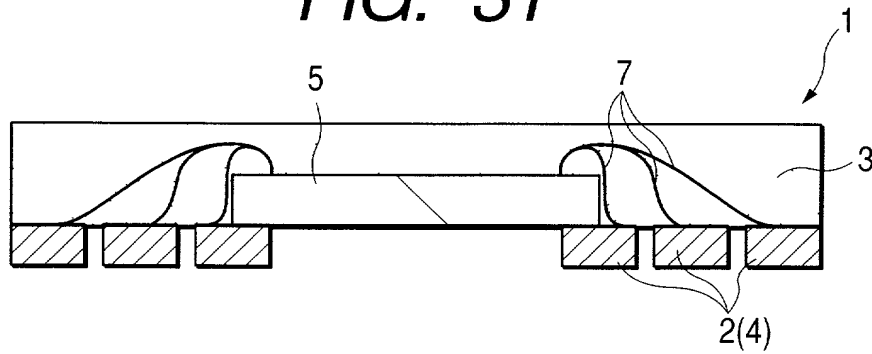
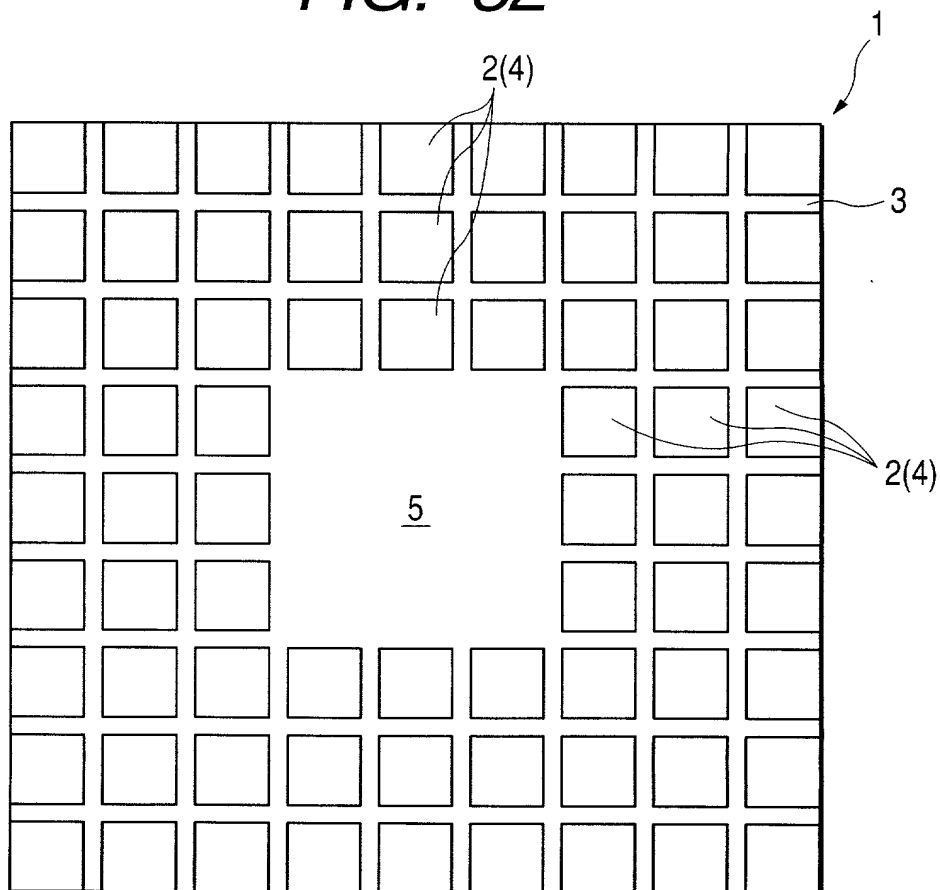
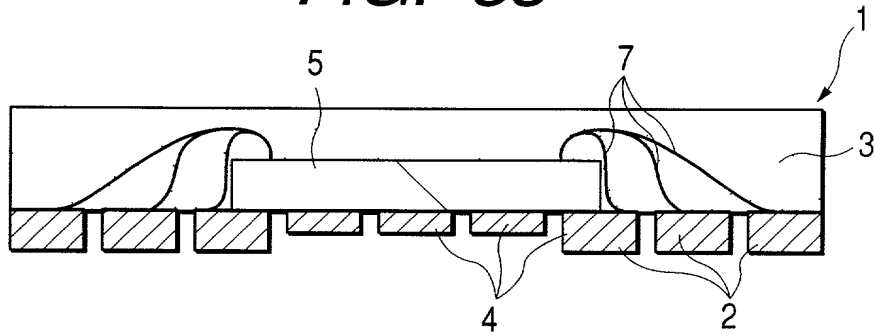
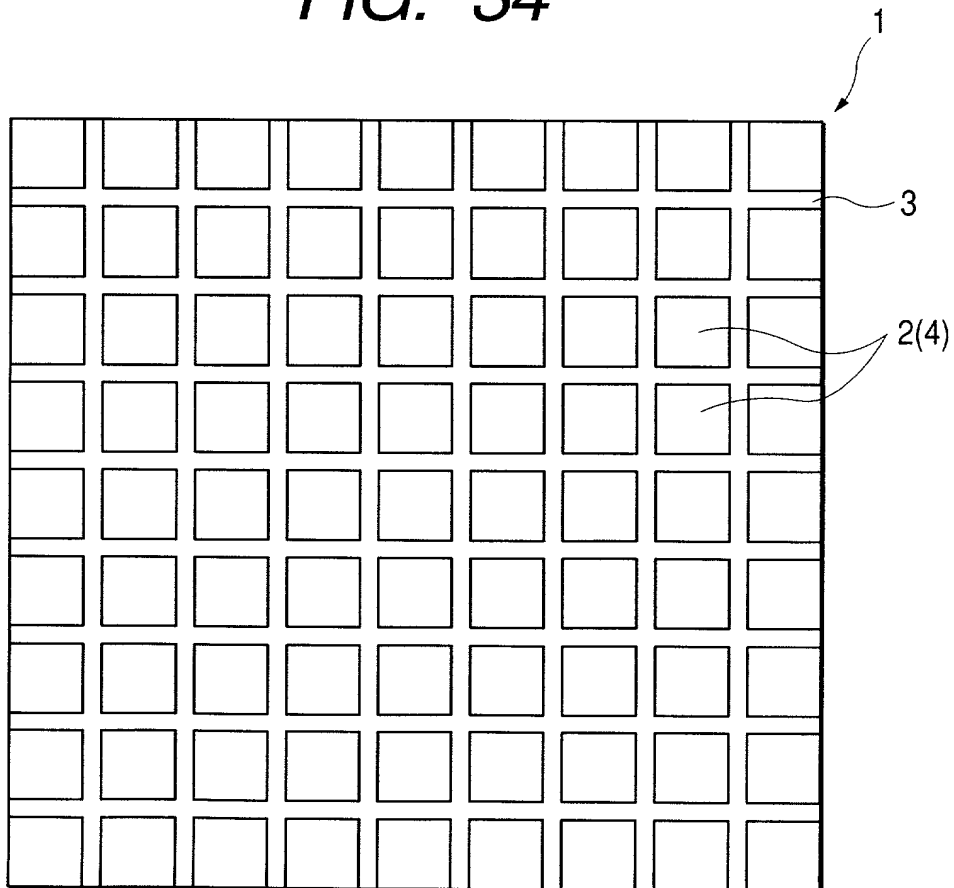
FIG. 31**FIG. 32**

FIG. 33**FIG. 34**

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FIG. 35

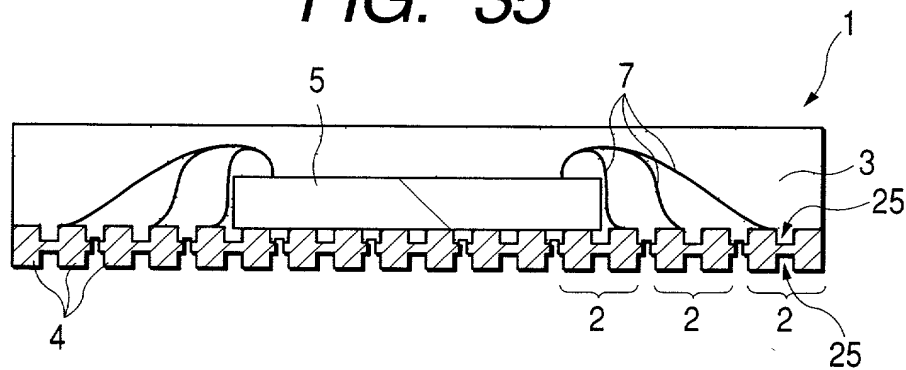
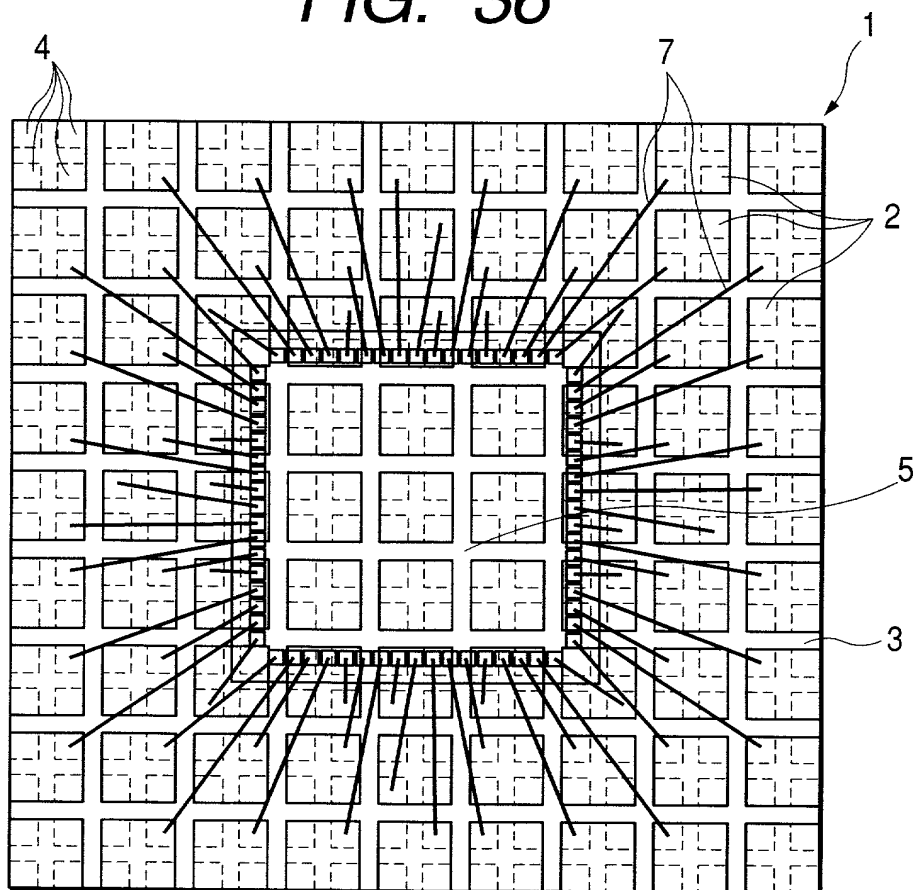
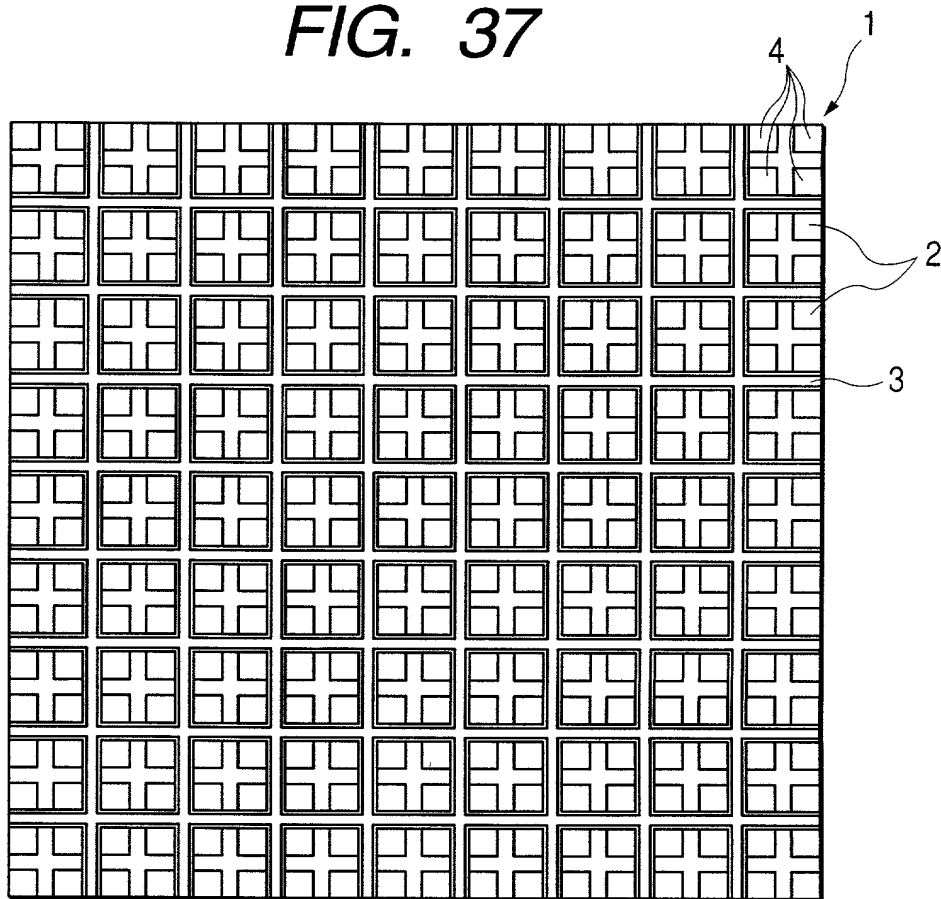
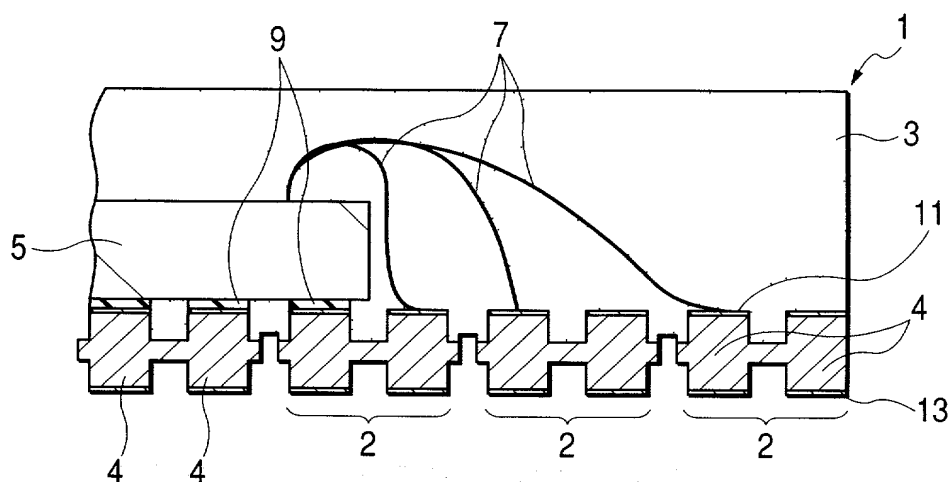


FIG. 36



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FIG. 37**FIG. 38**

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FIG. 39

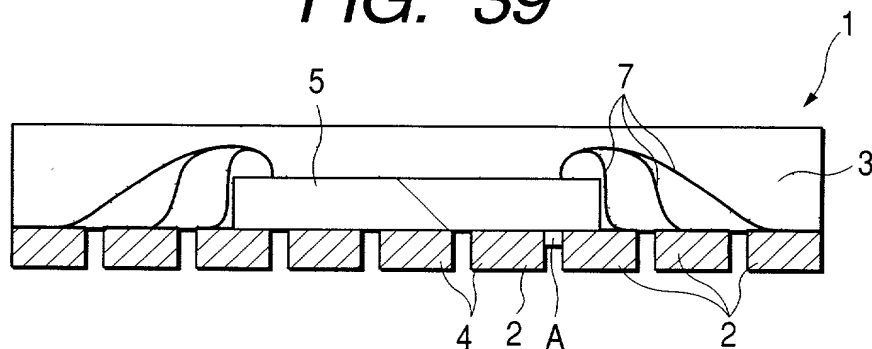


FIG. 40

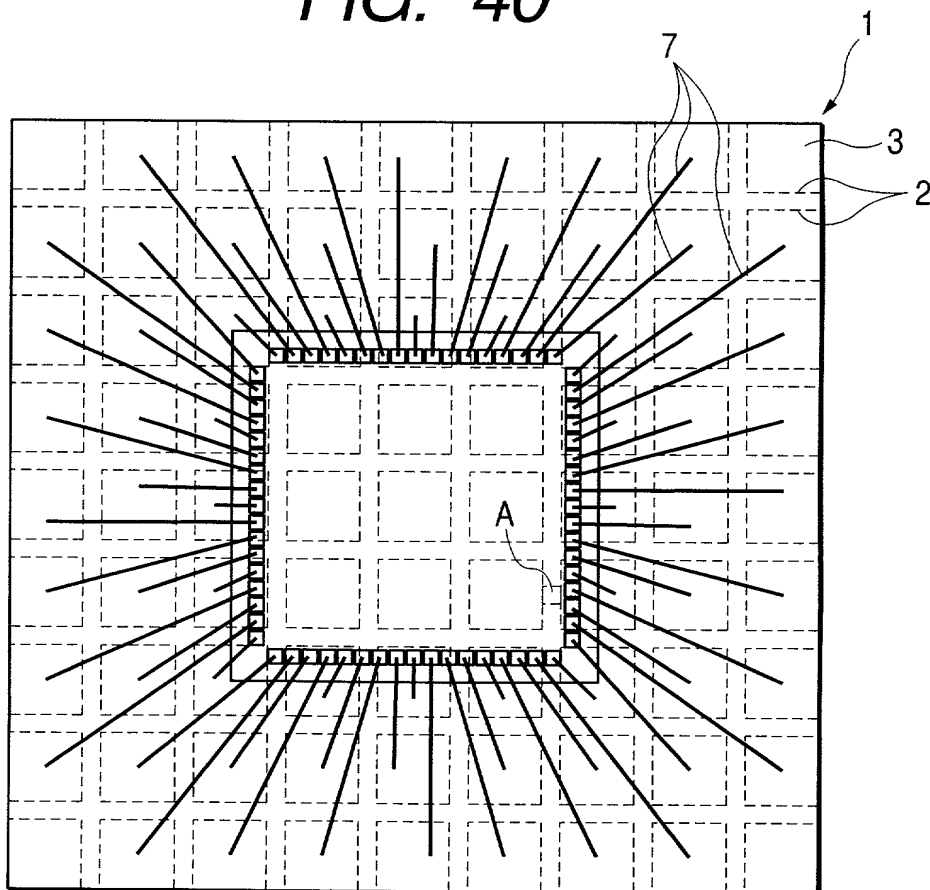


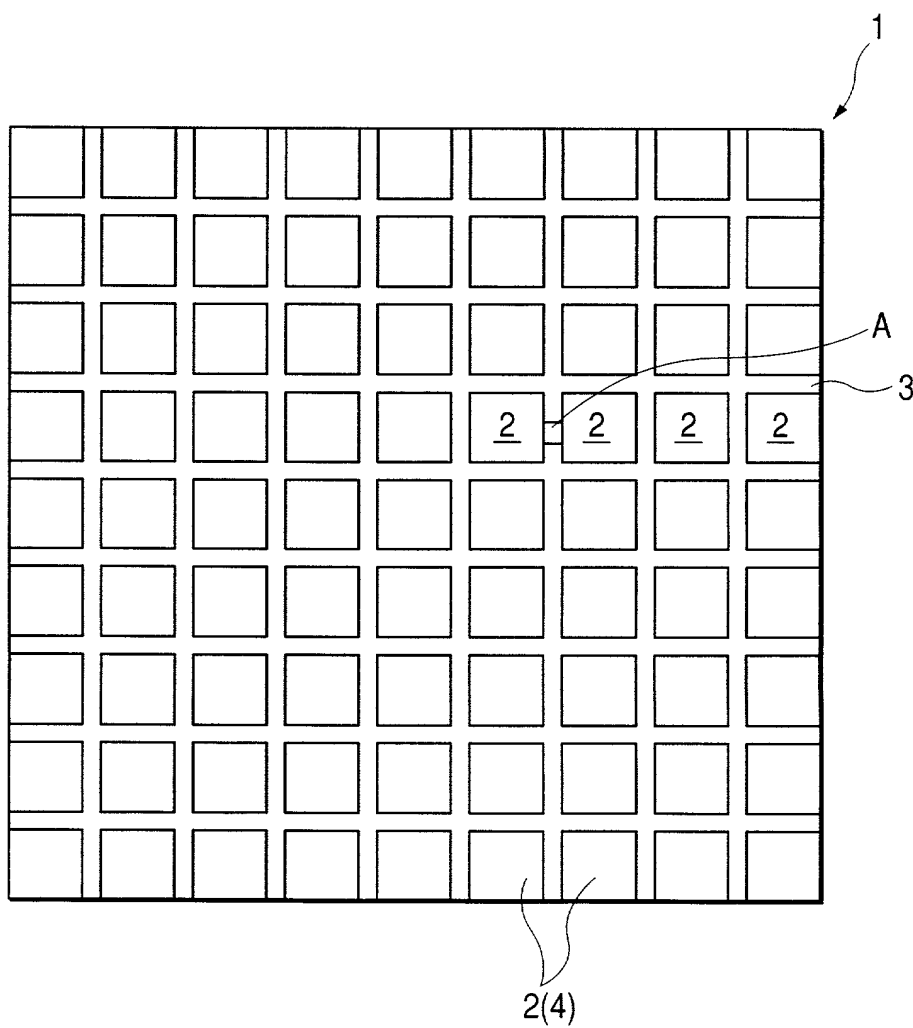
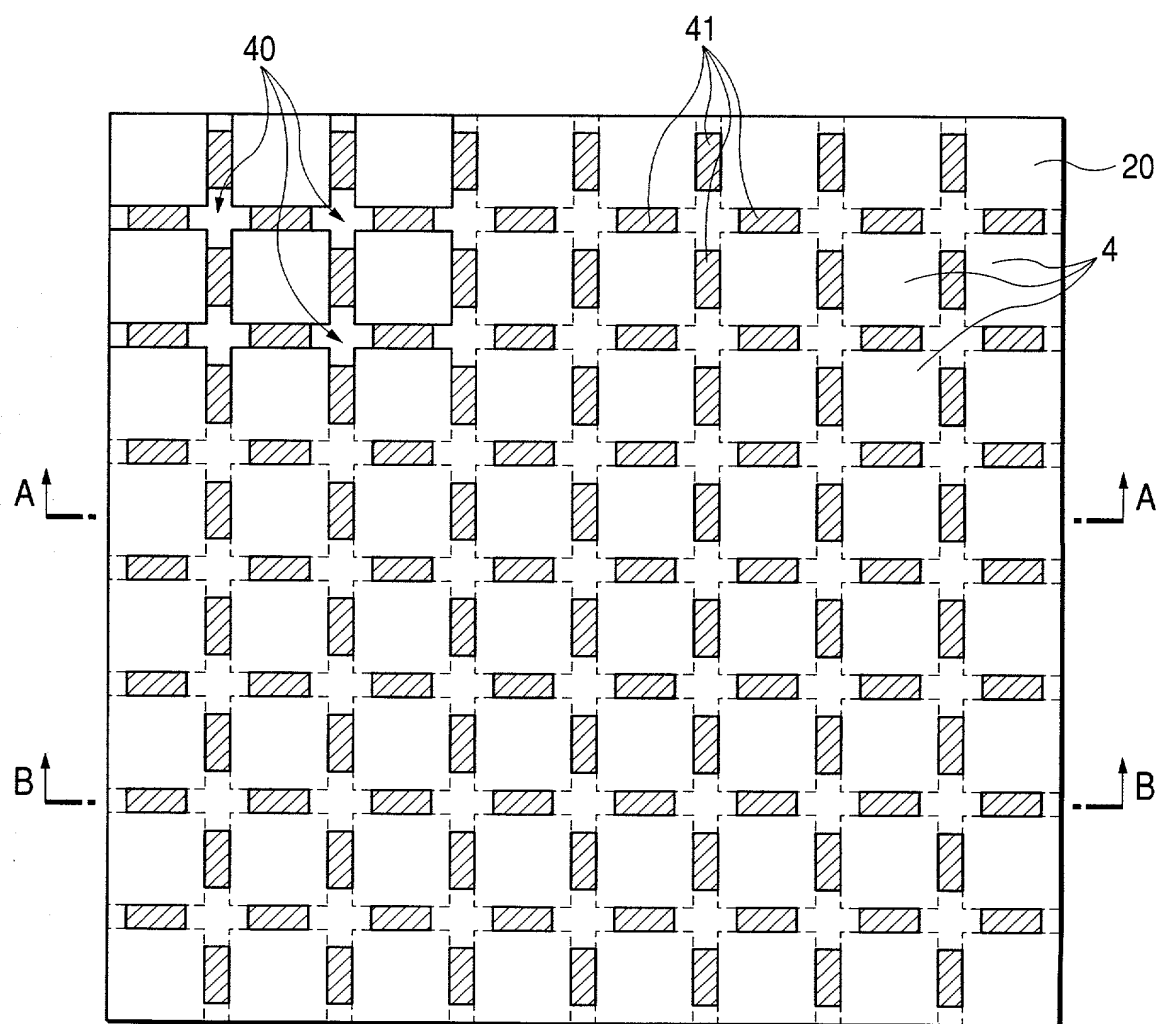
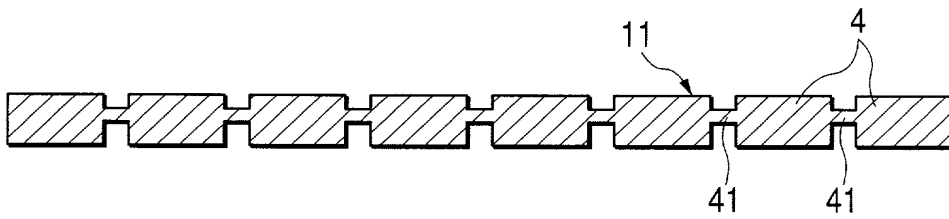
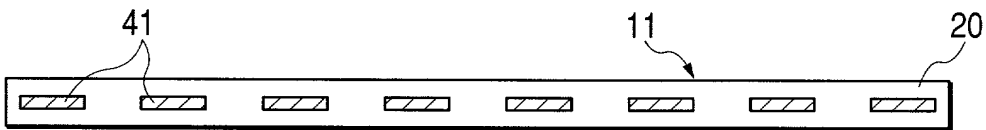
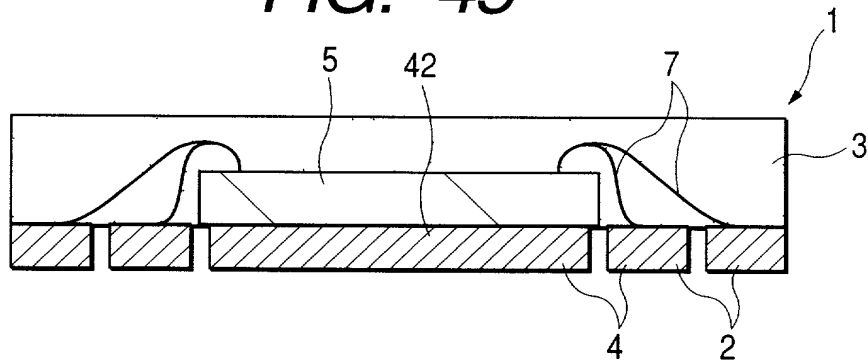
FIG. 41

FIG. 42



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FIG. 43**FIG. 44****FIG. 45**

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FIG. 46

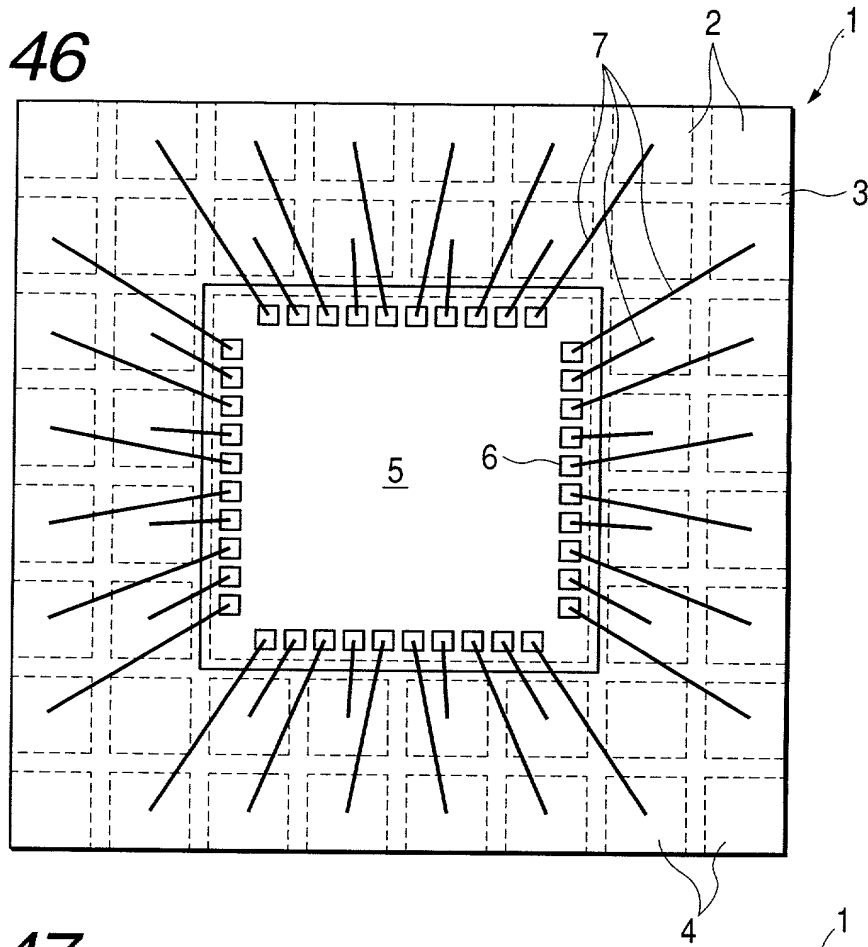
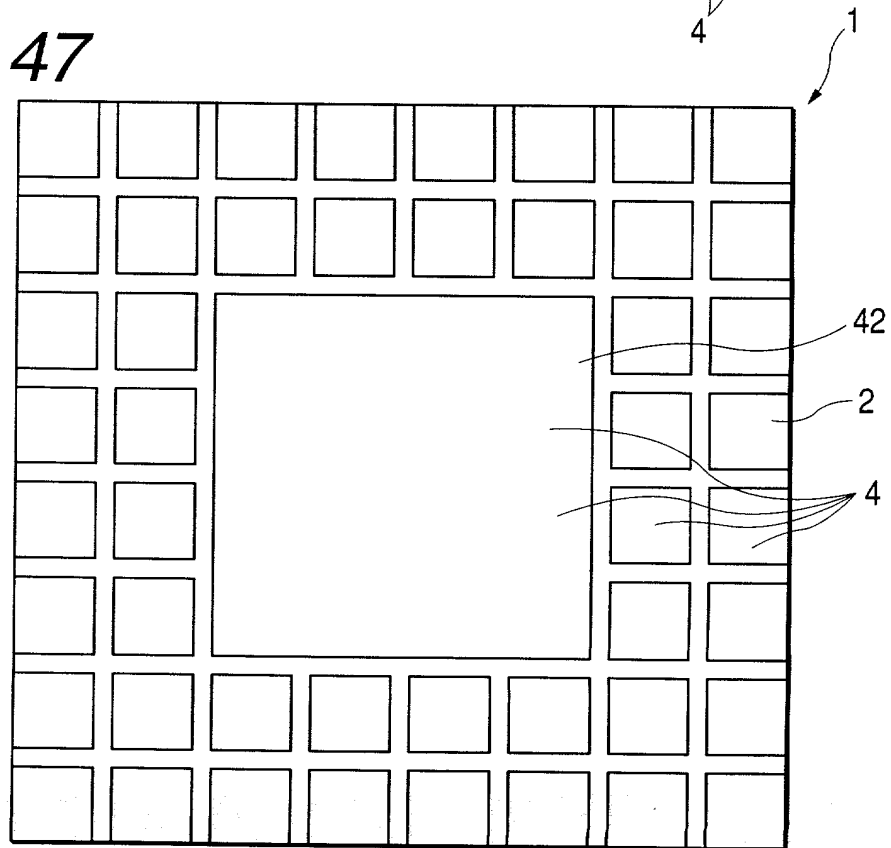
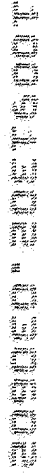
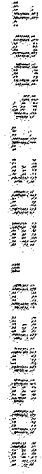
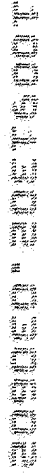


FIG. 47



[illegible][illegible][illegible]

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FIG. 49

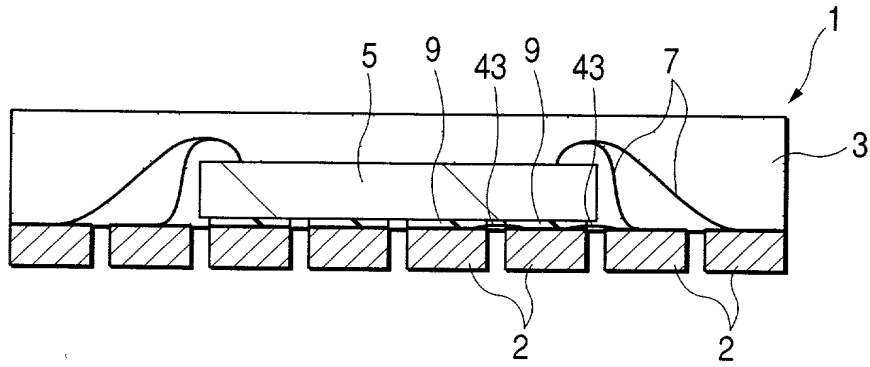


FIG. 50

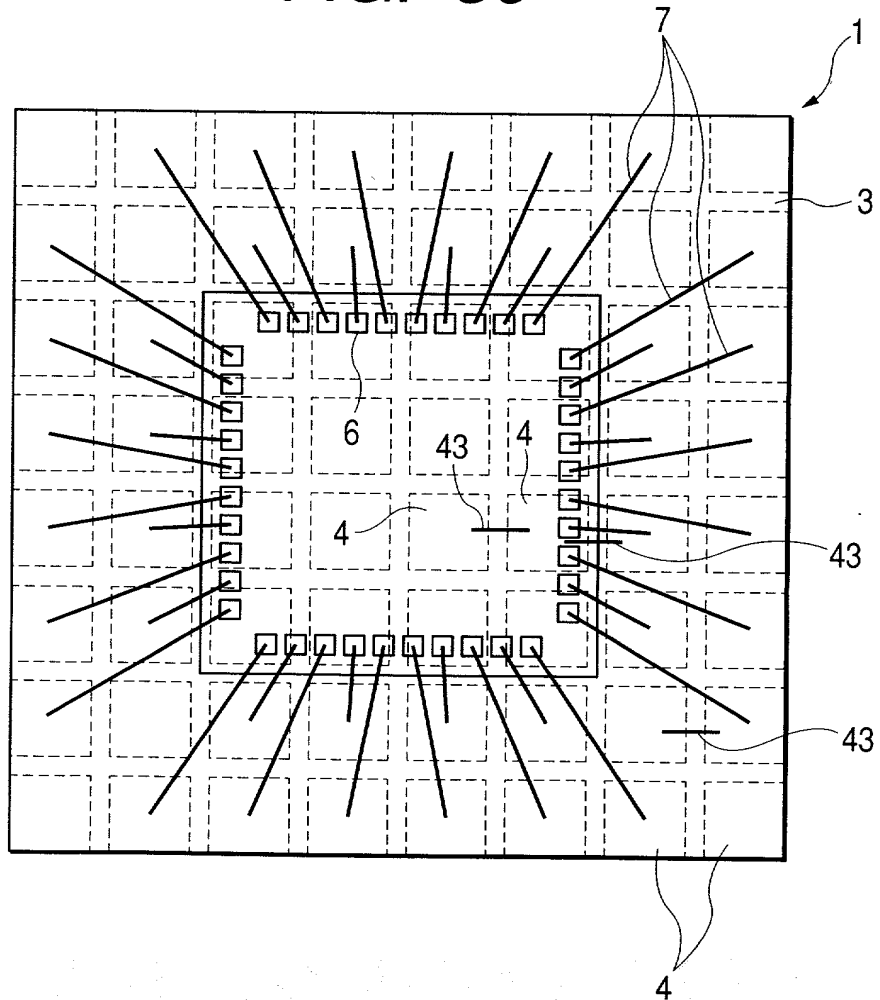


FIG. 51(a)

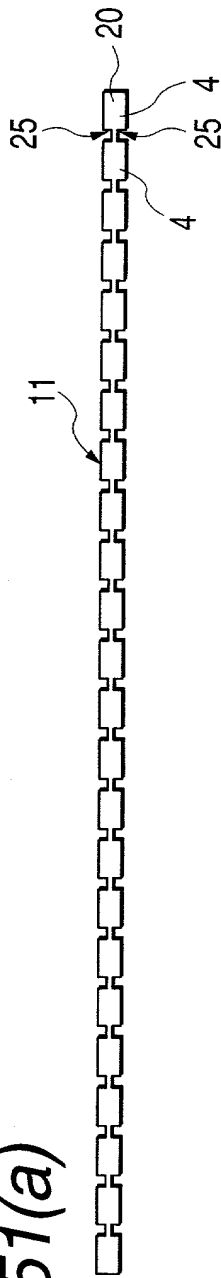


FIG. 51(b)

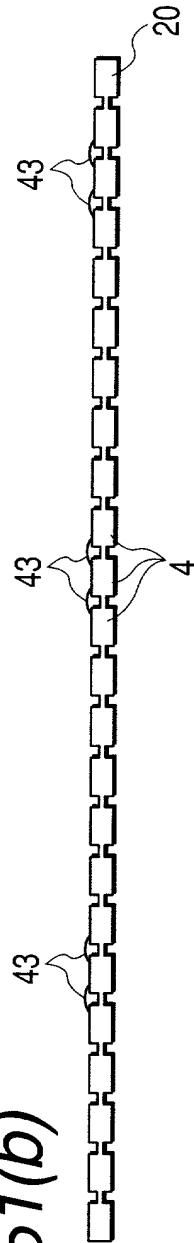


FIG. 51(c)

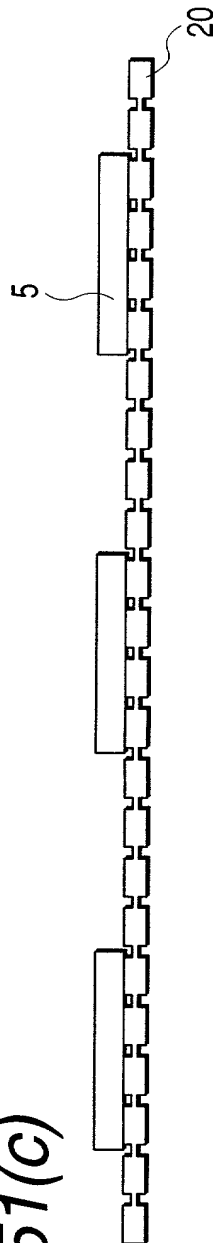


FIG. 51(d)

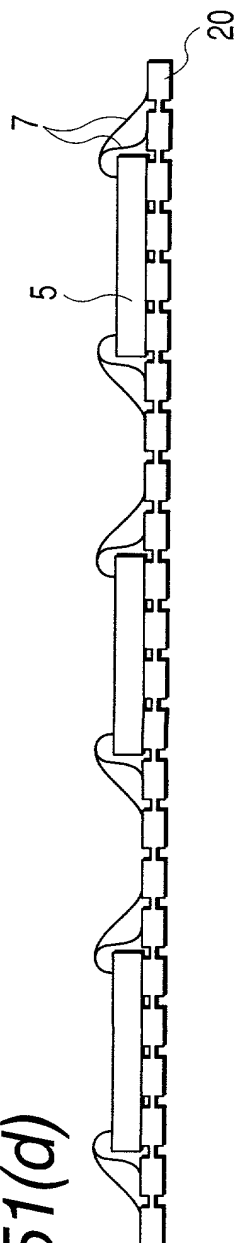


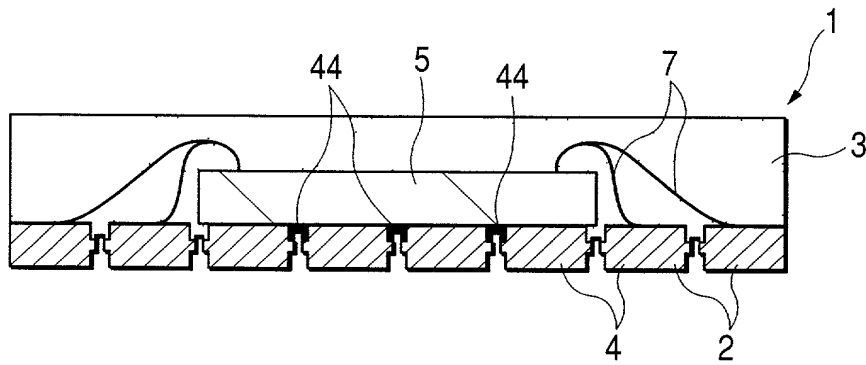
FIG. 52

FIG. 53(a)

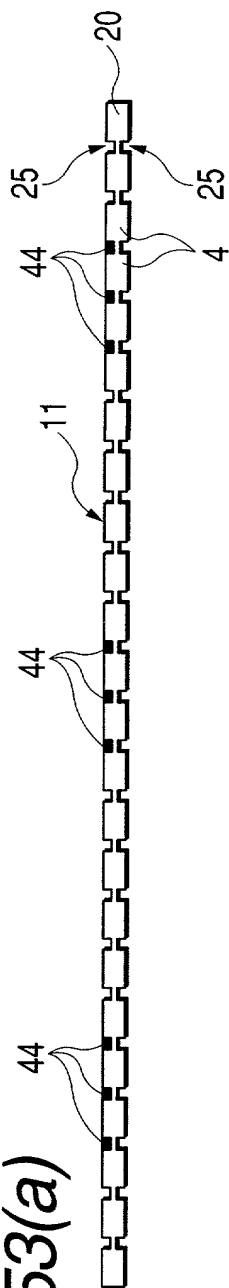


FIG. 53(b)

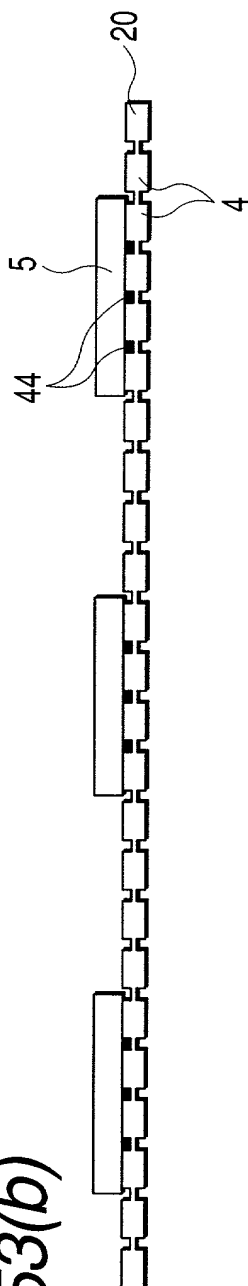


FIG. 53(c)

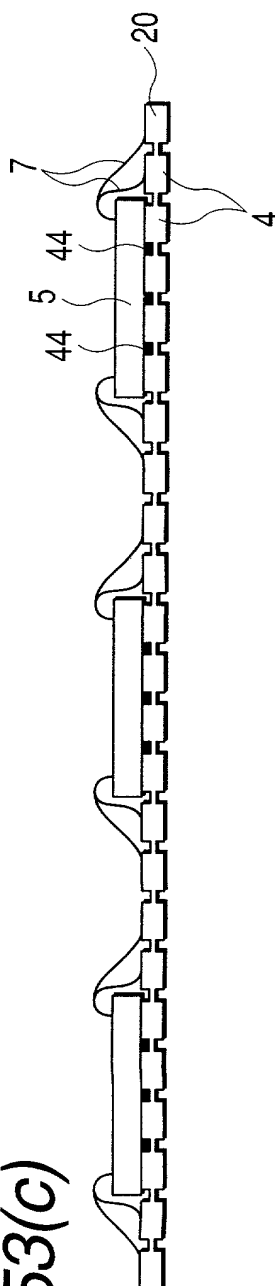
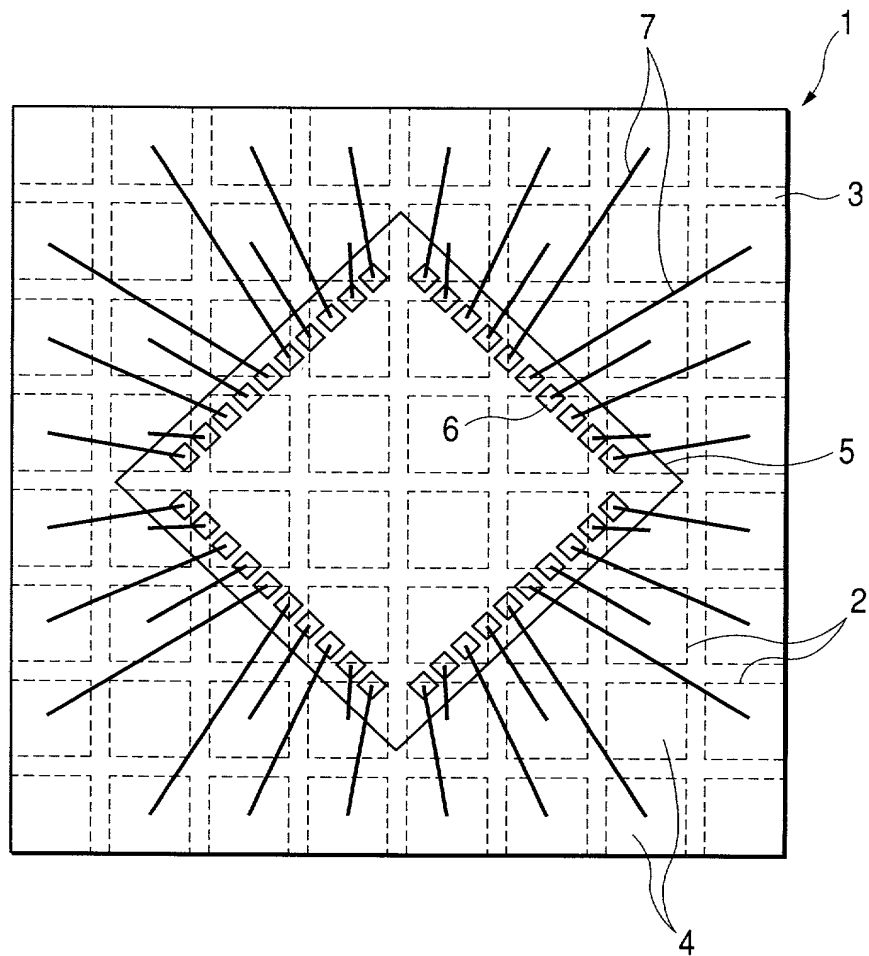


FIG. 54



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FIG. 55(a)

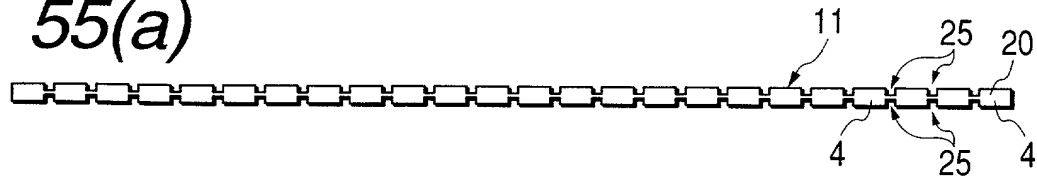


FIG. 55(b)

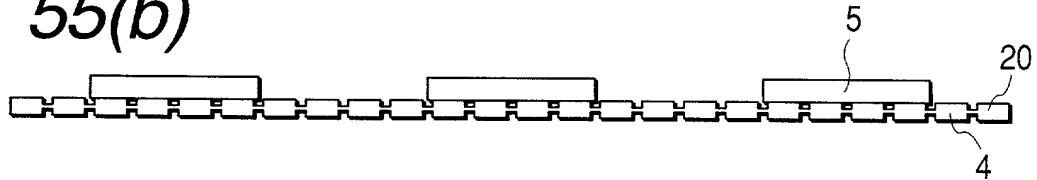


FIG. 55(c)

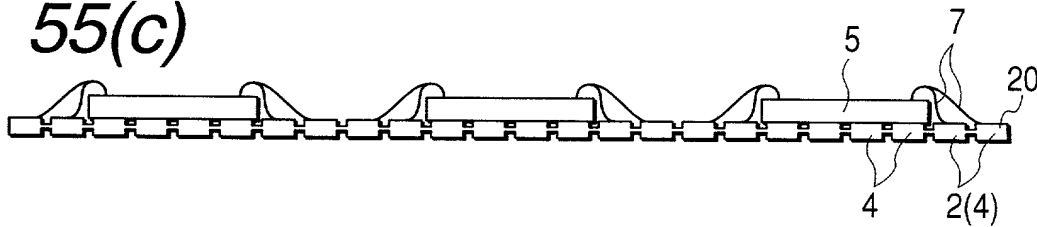


FIG. 55(d)

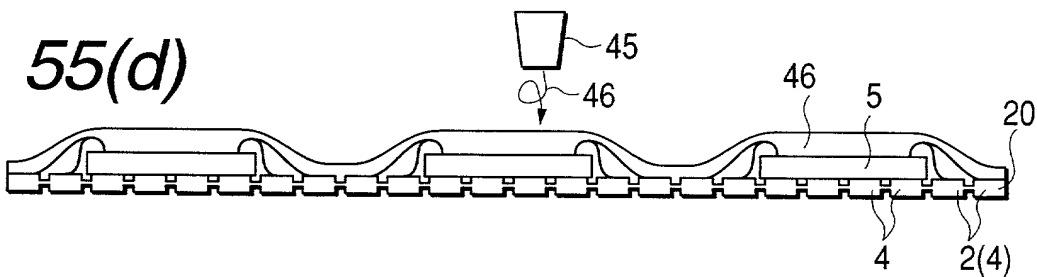


FIG. 55(e)

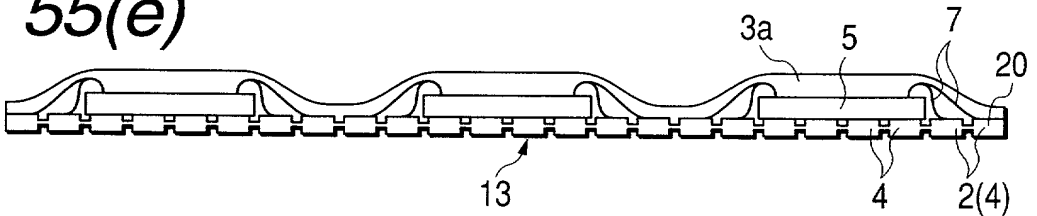


FIG. 55(f)

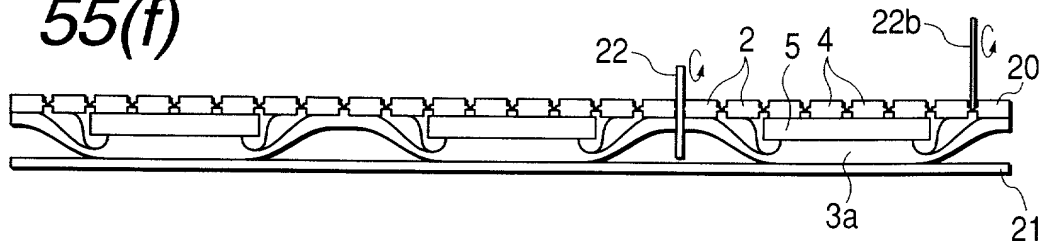


FIG. 55(g)

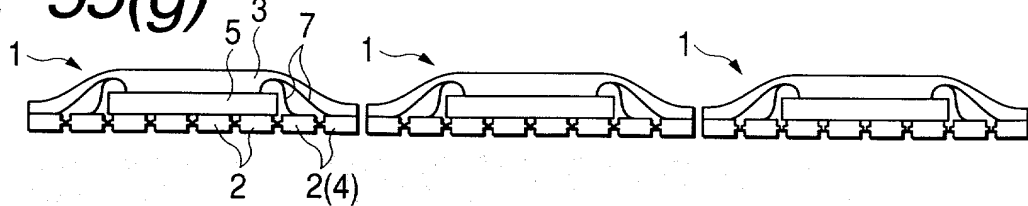


FIG. 56

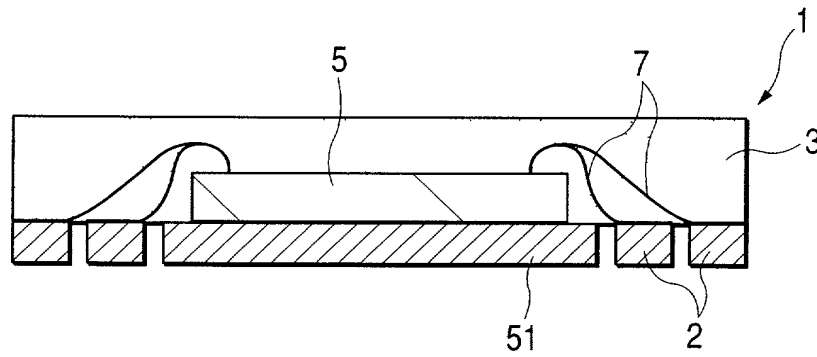
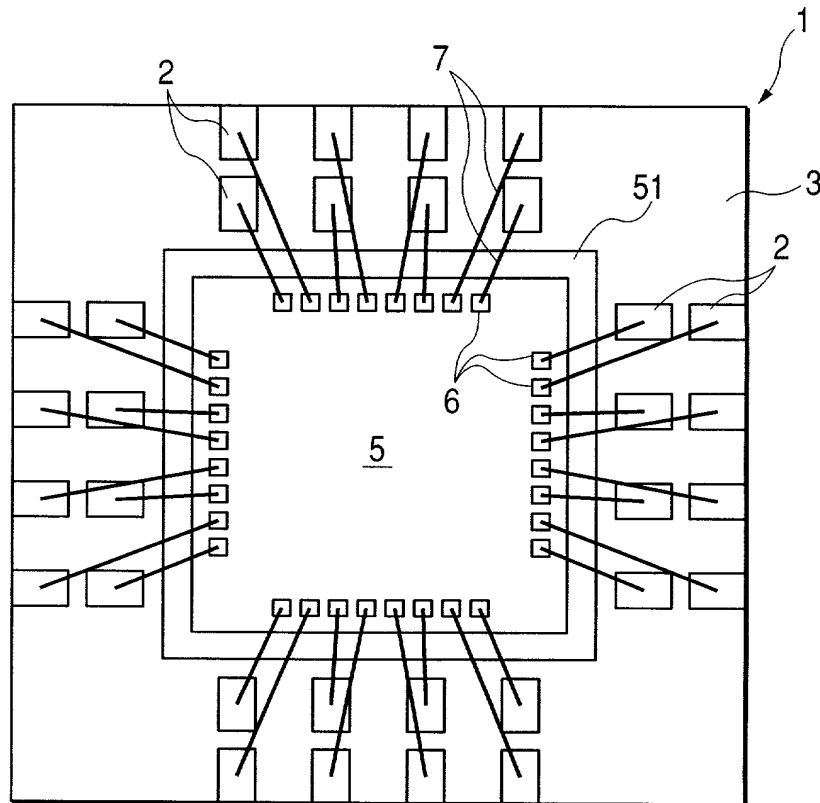
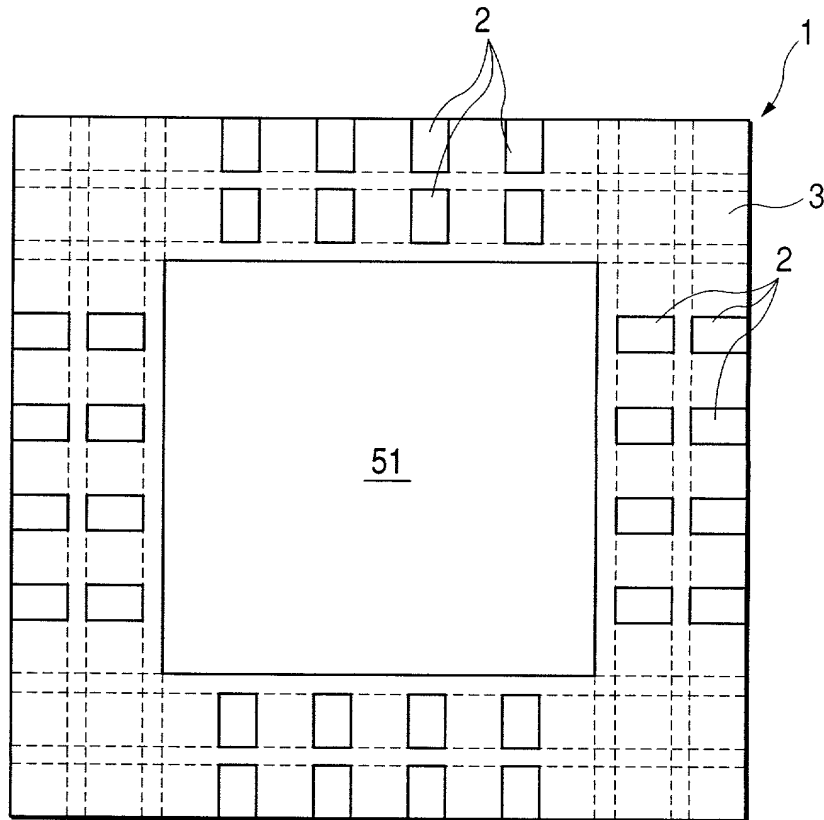
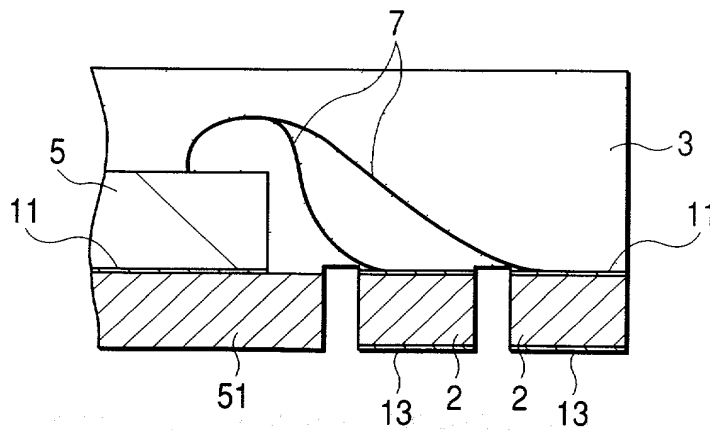


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FIG. 58**FIG. 59**

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FIG. 60(a)



FIG. 60(b)

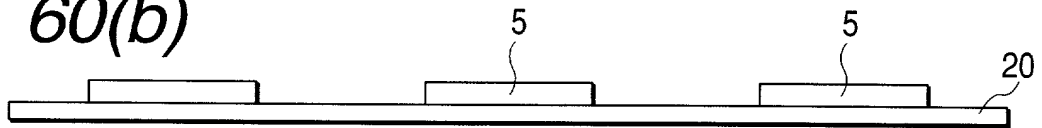


FIG. 60(c)

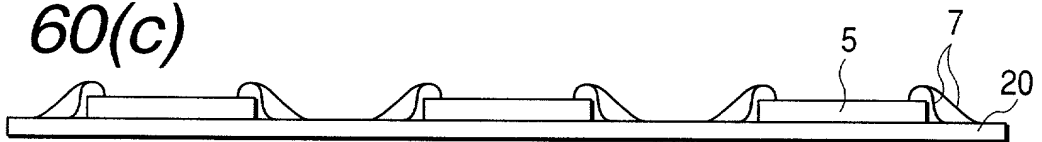


FIG. 60(d)

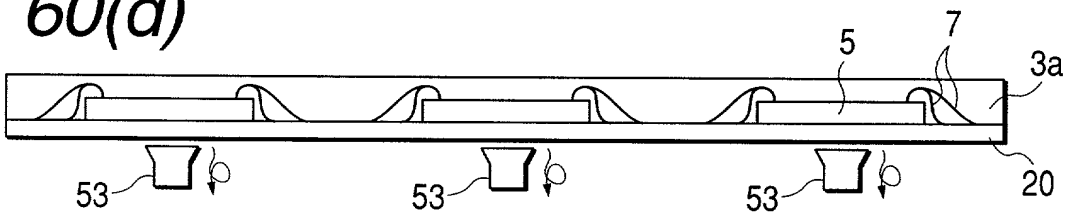


FIG. 60(e)

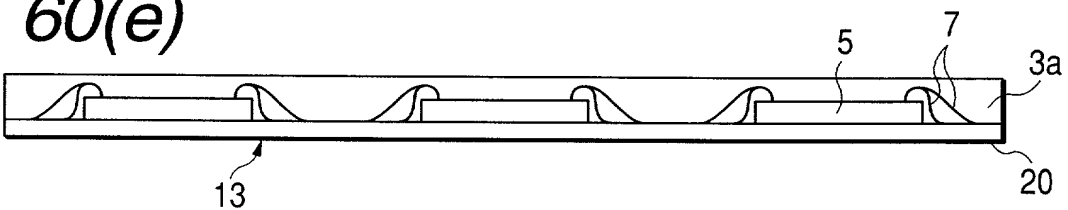


FIG. 60(f)

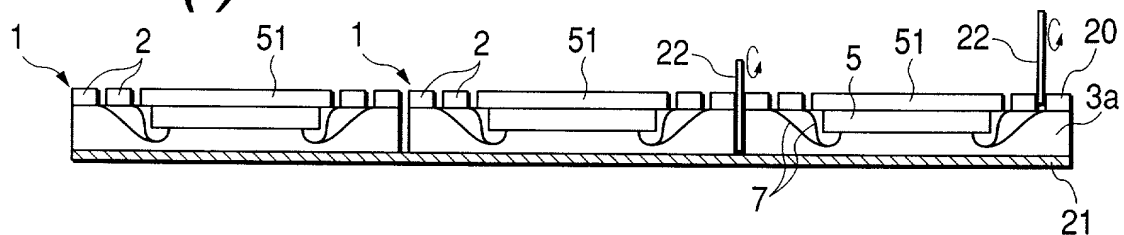


FIG. 60(g)

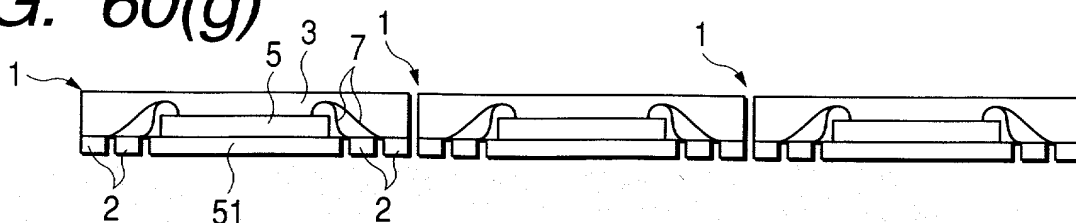
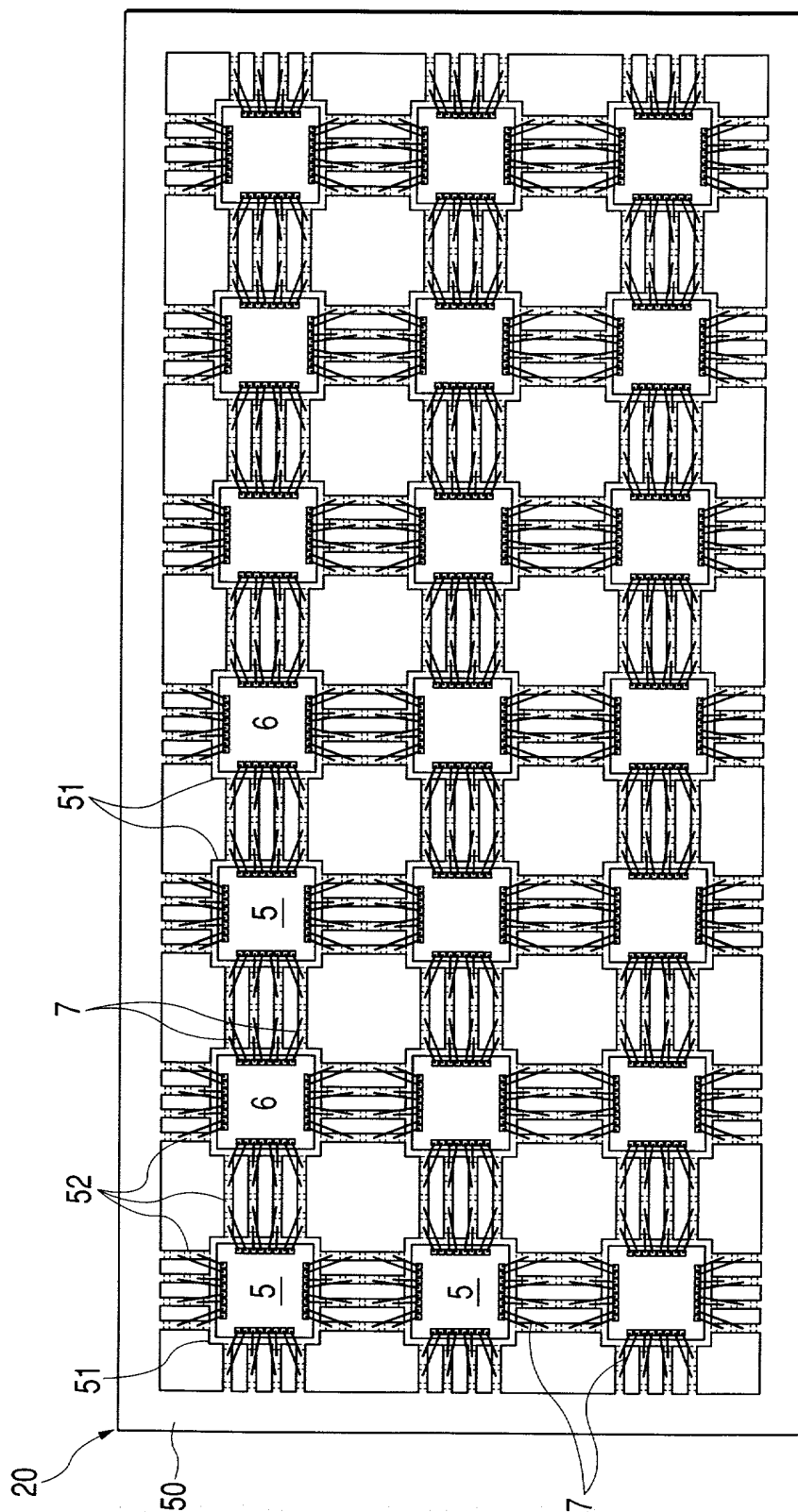


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FIG. 62

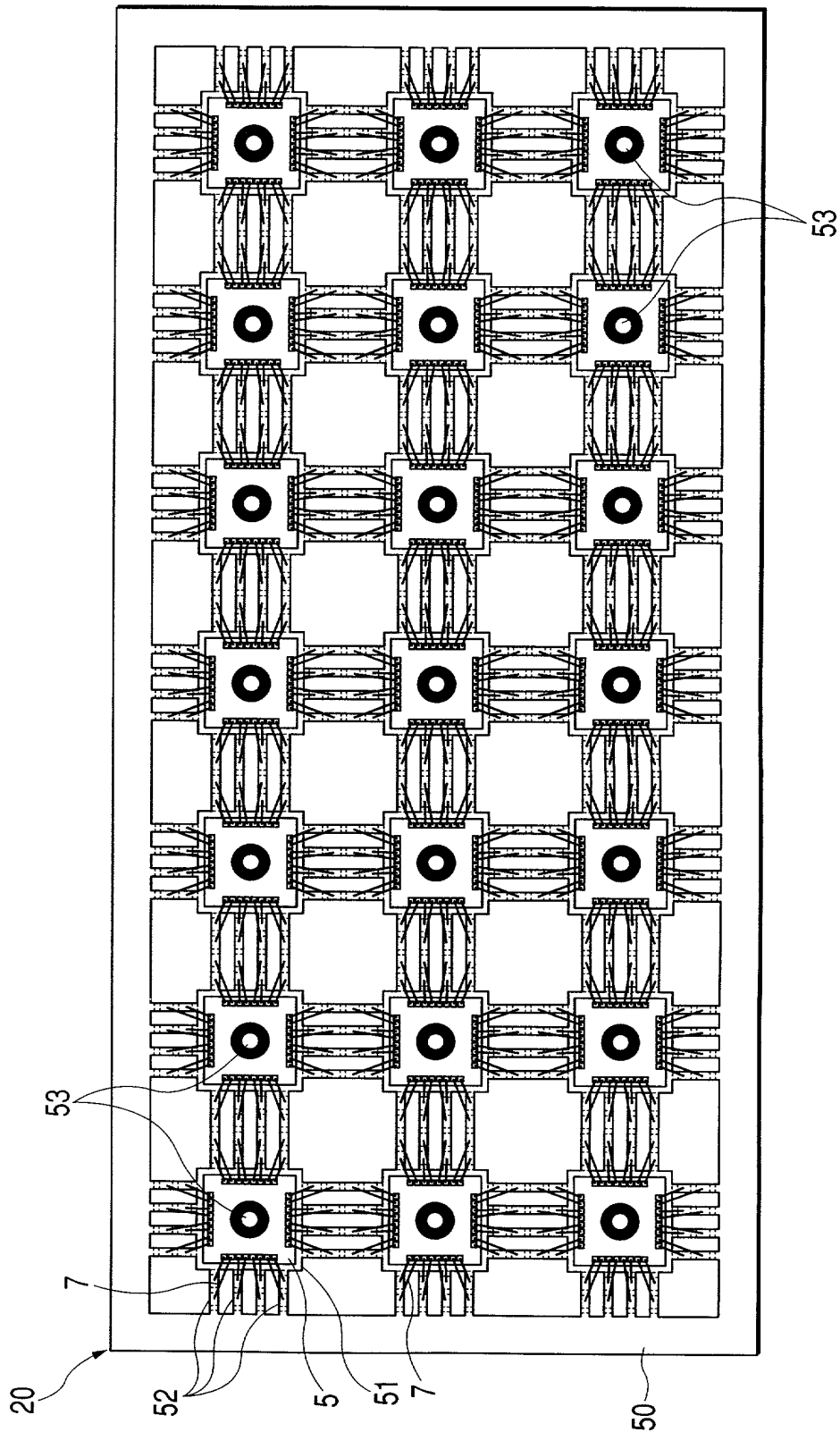
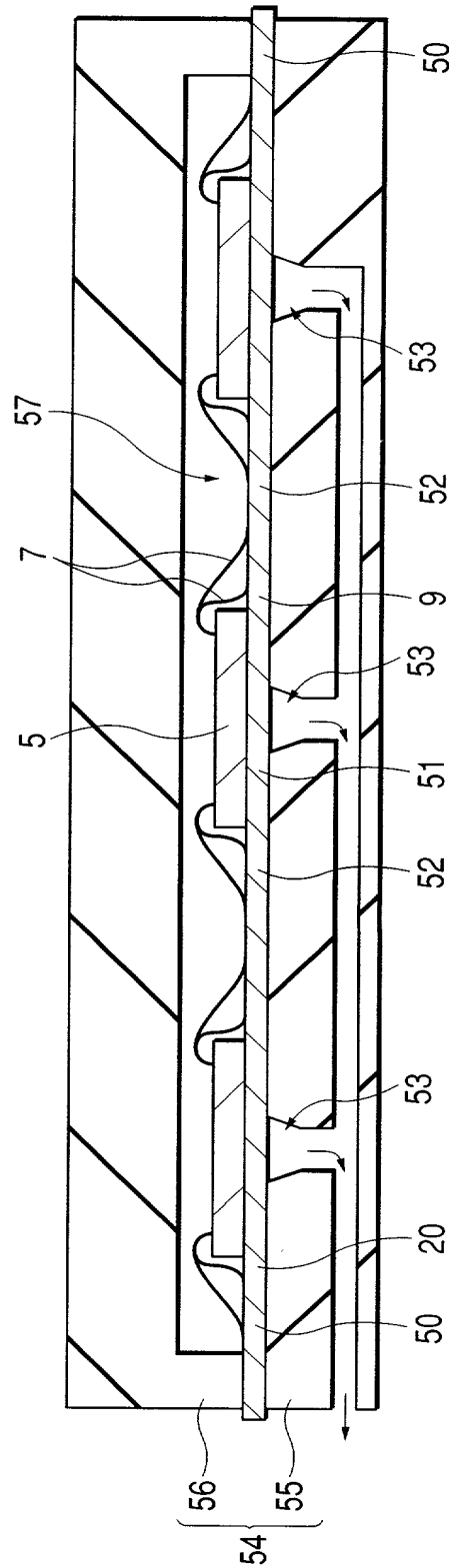


FIG. 63



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FIG. 64

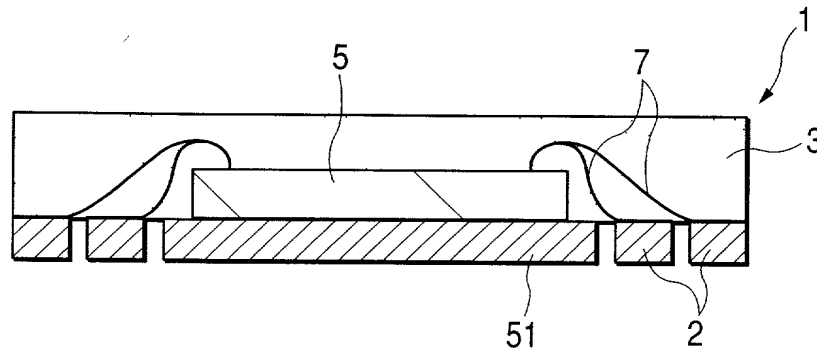


FIG. 65

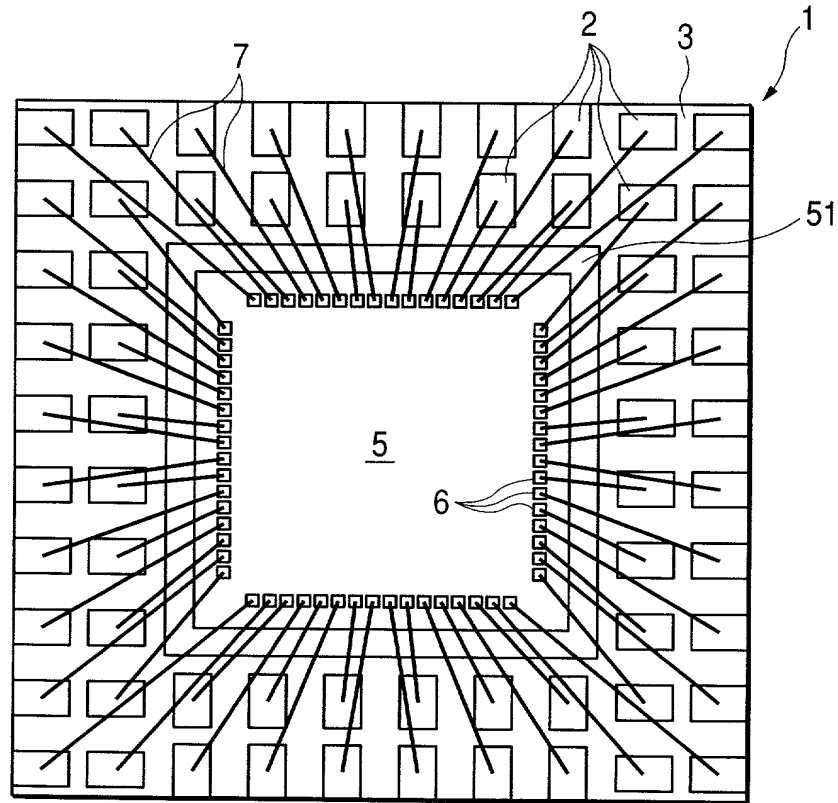


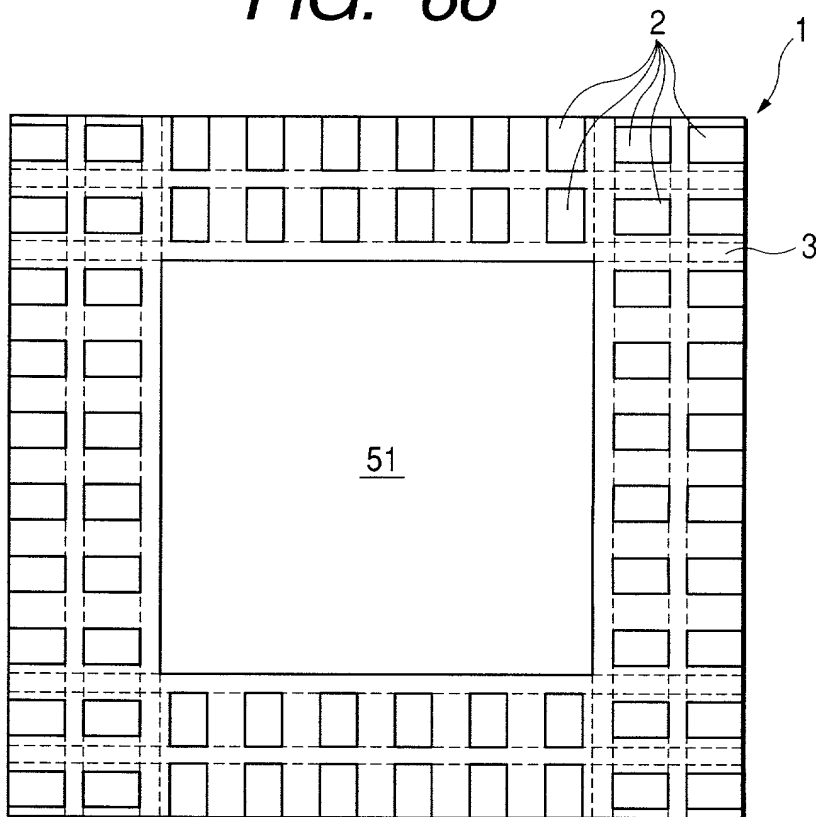
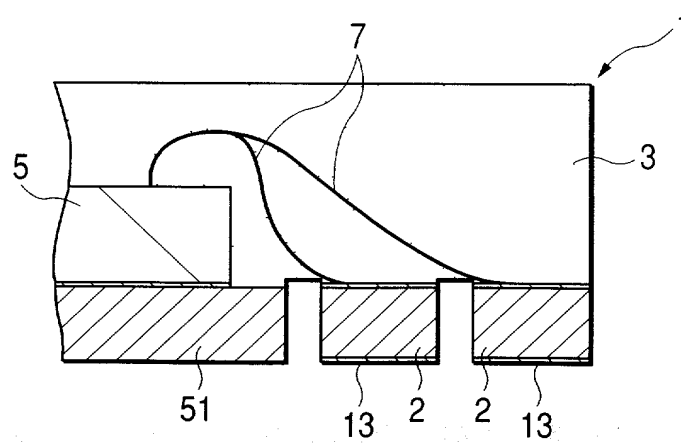
FIG. 66**FIG. 67**

FIG. 68

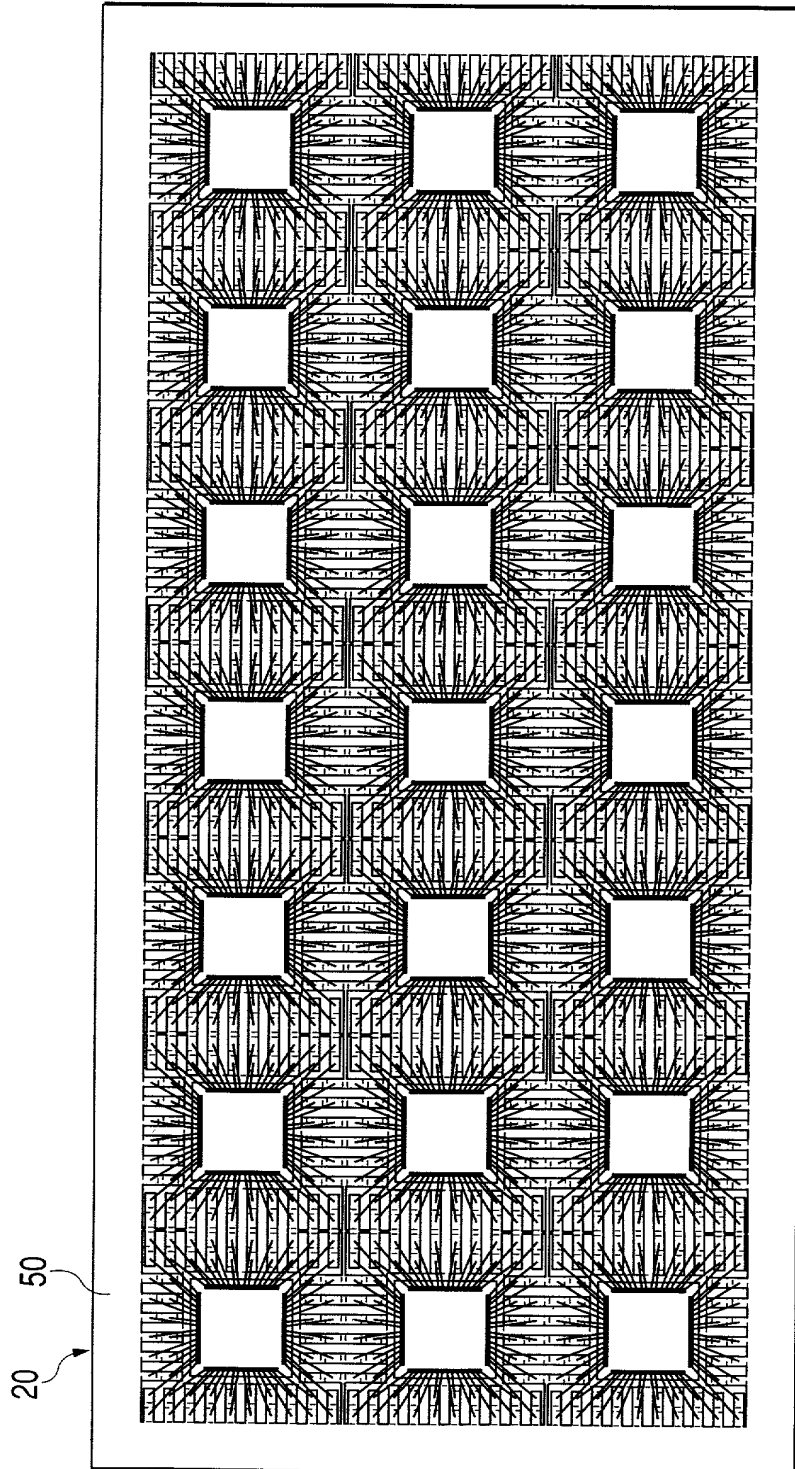


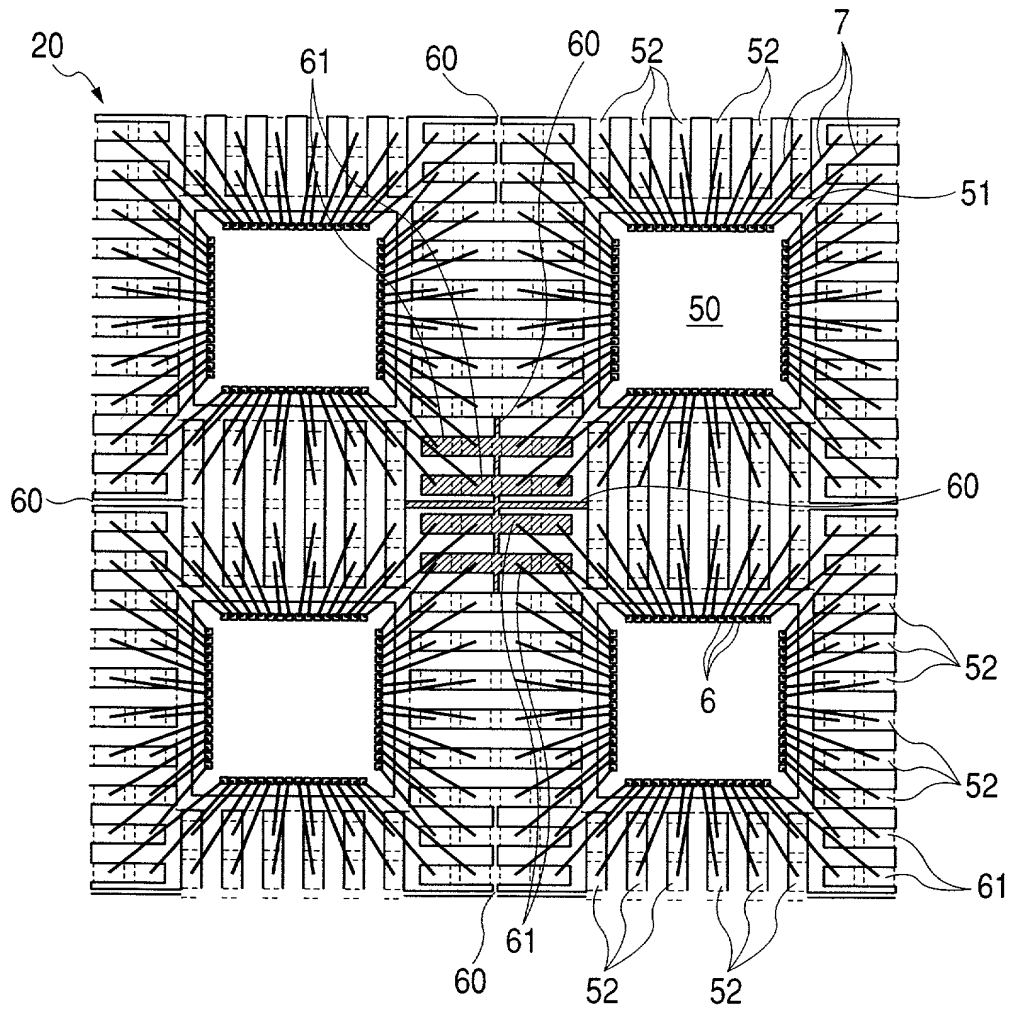
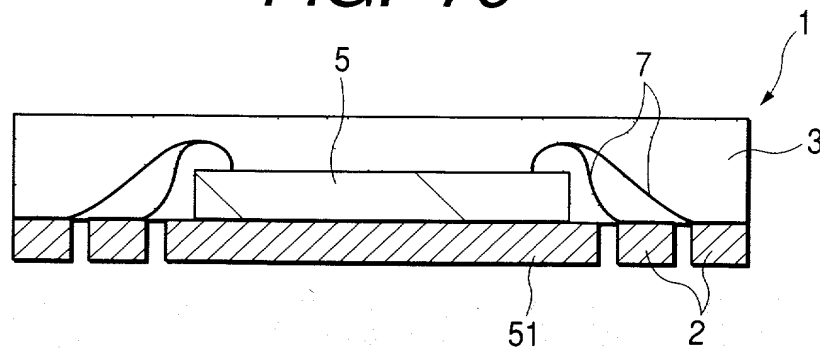
FIG. 69**FIG. 70**

FIG. 71

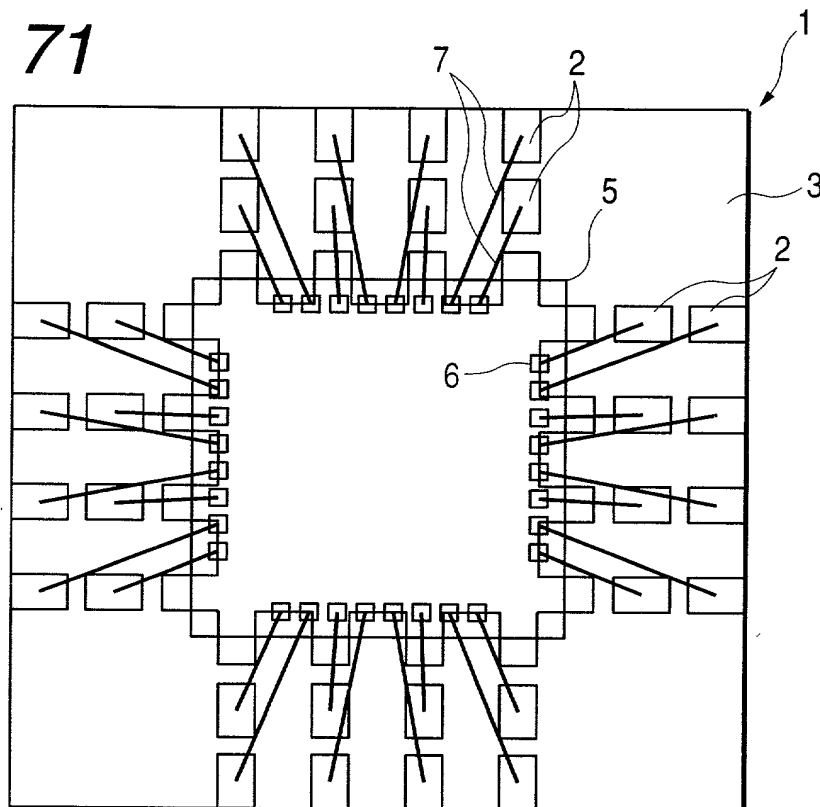
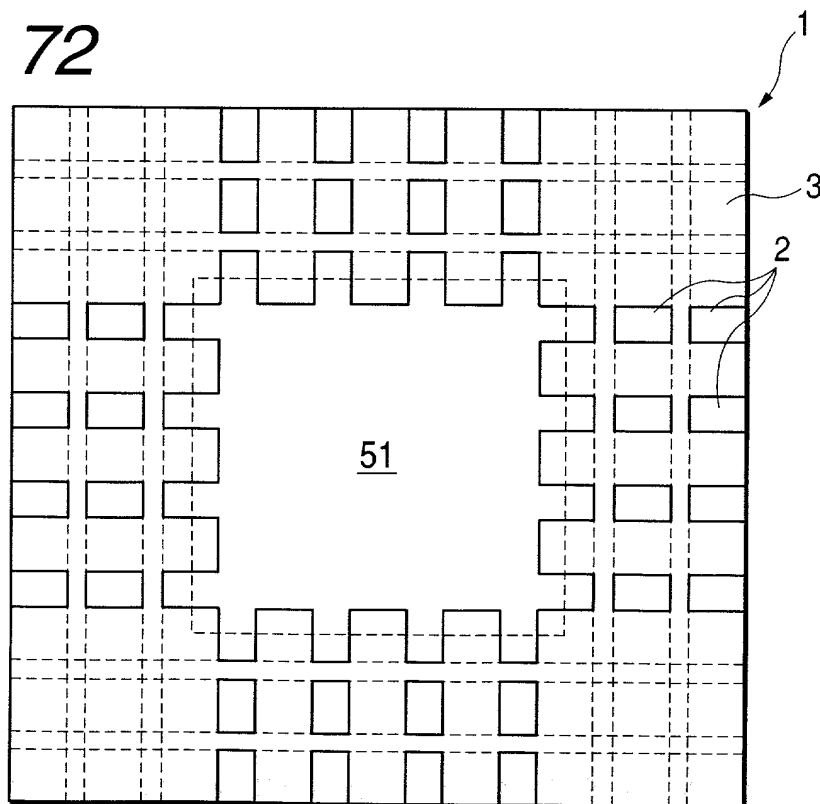
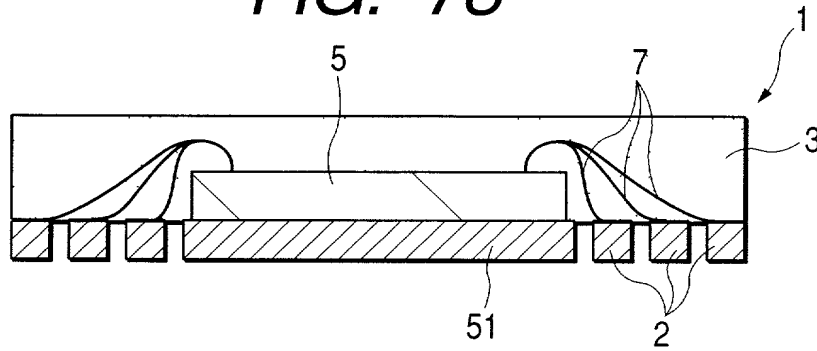
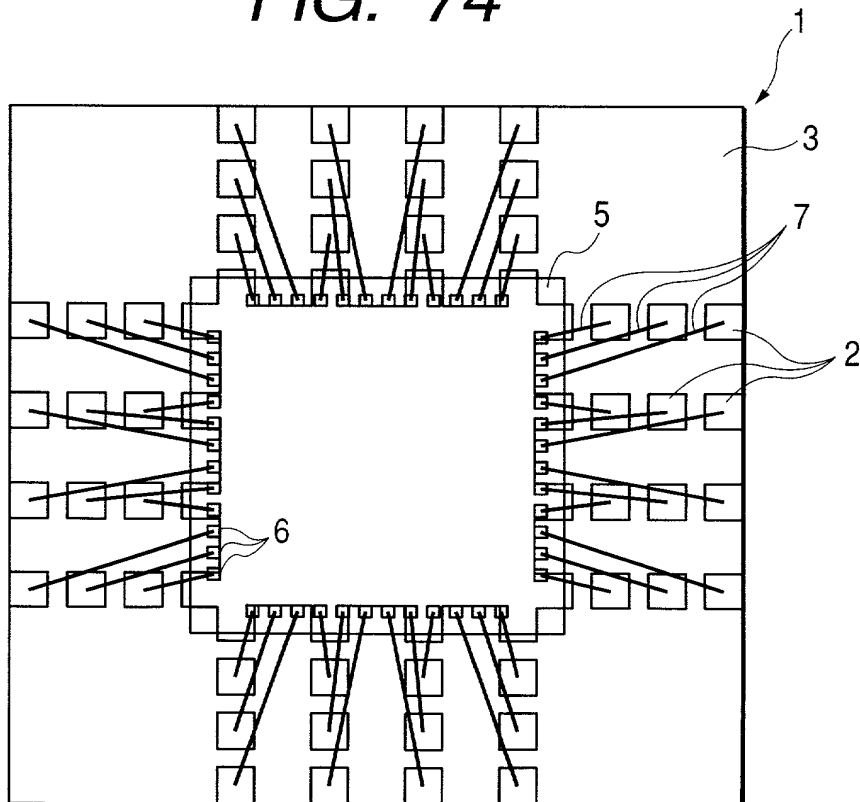


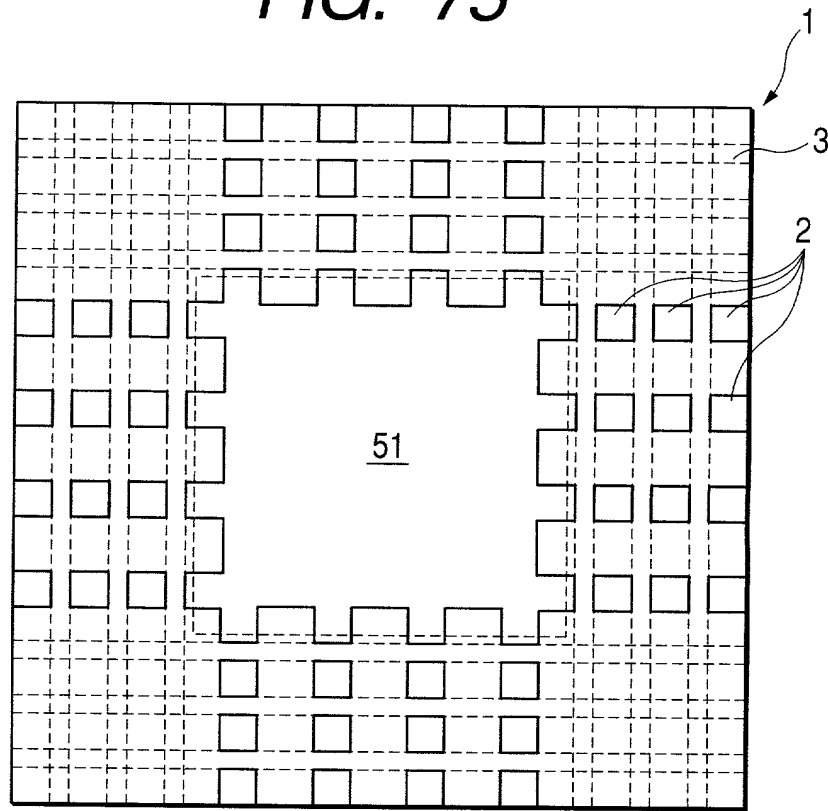
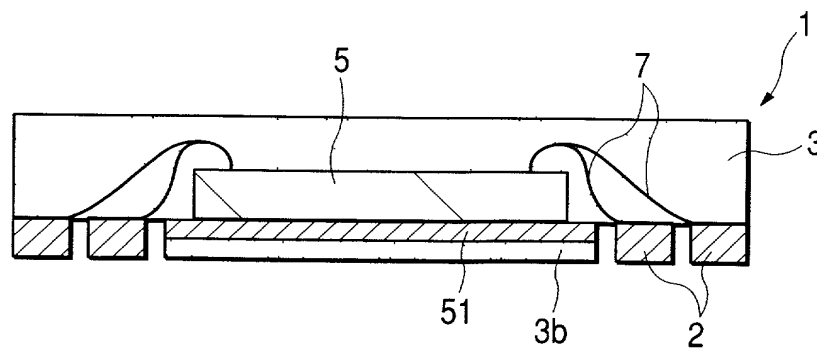
FIG. 72



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FIG. 73**FIG. 74**

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FIG. 75**FIG. 76**

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FIG. 77

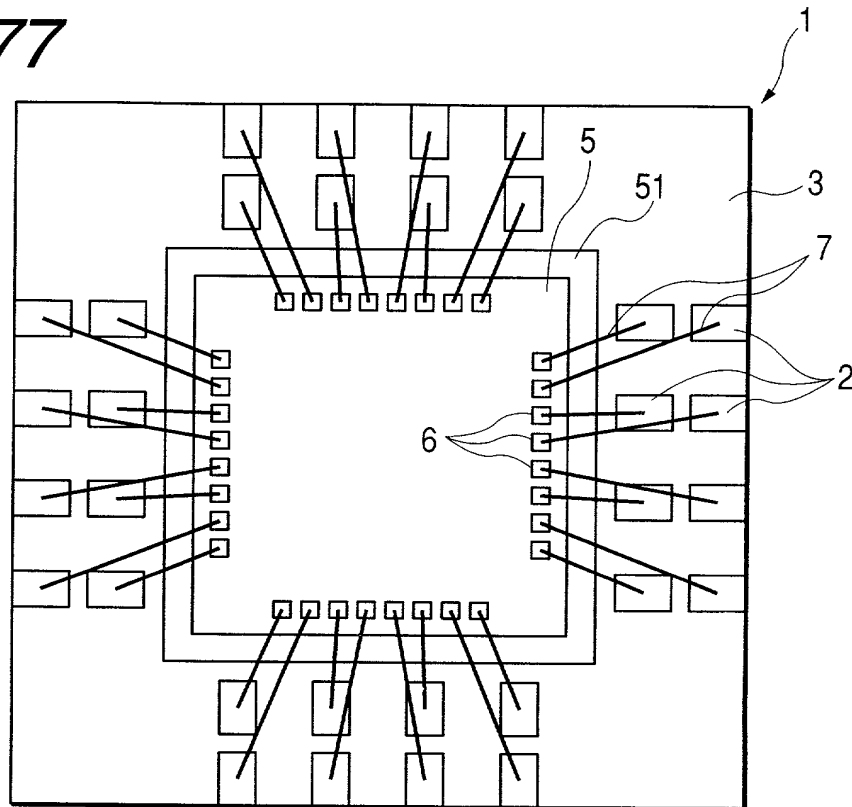
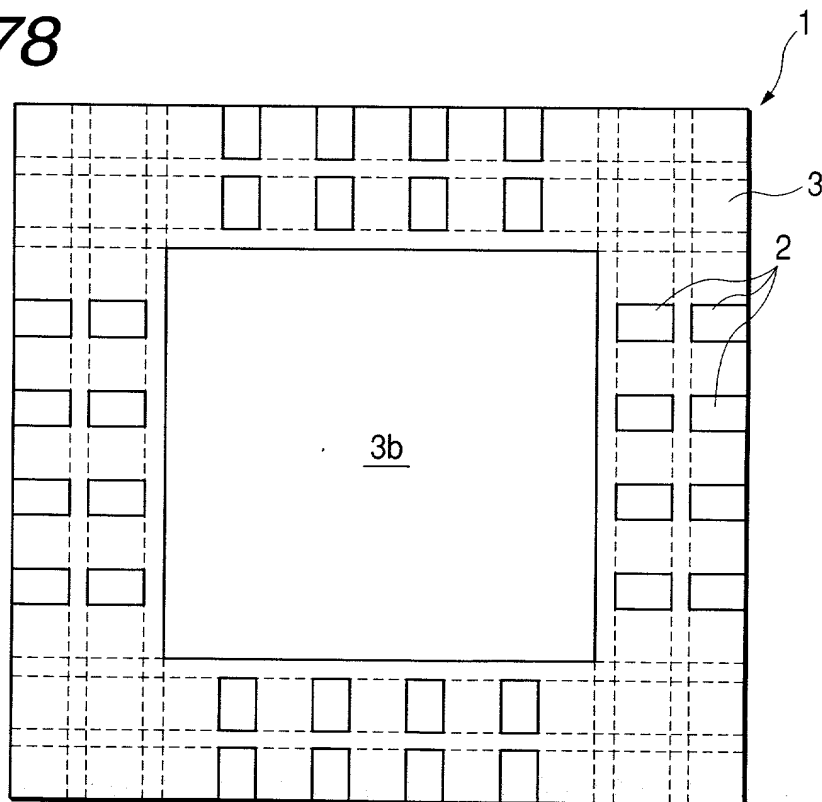
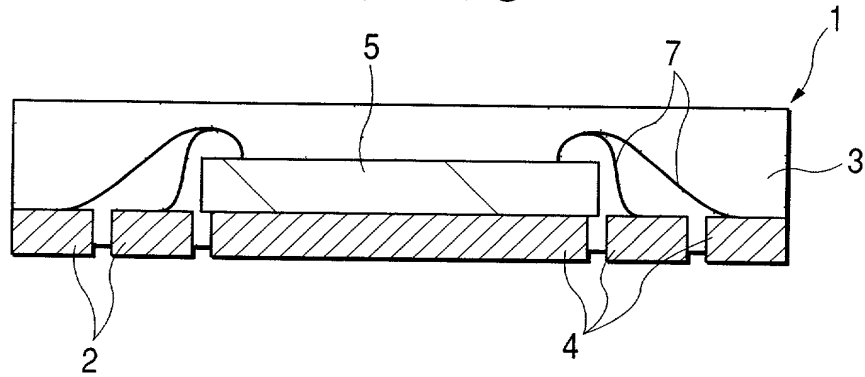
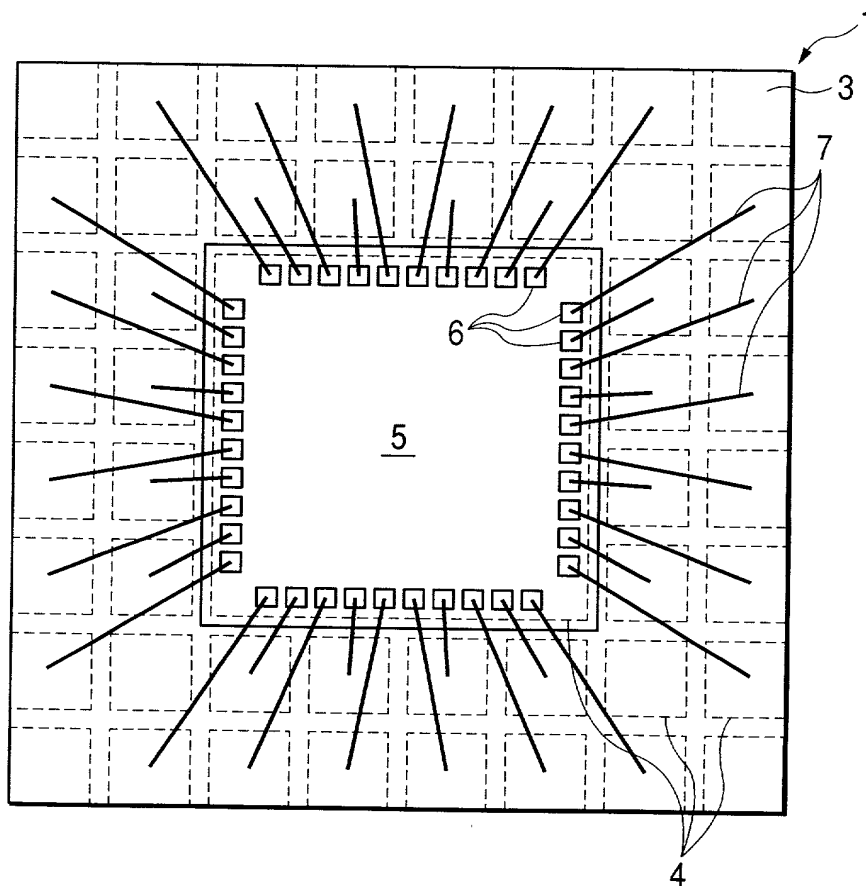


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FIG. 79**FIG. 80**

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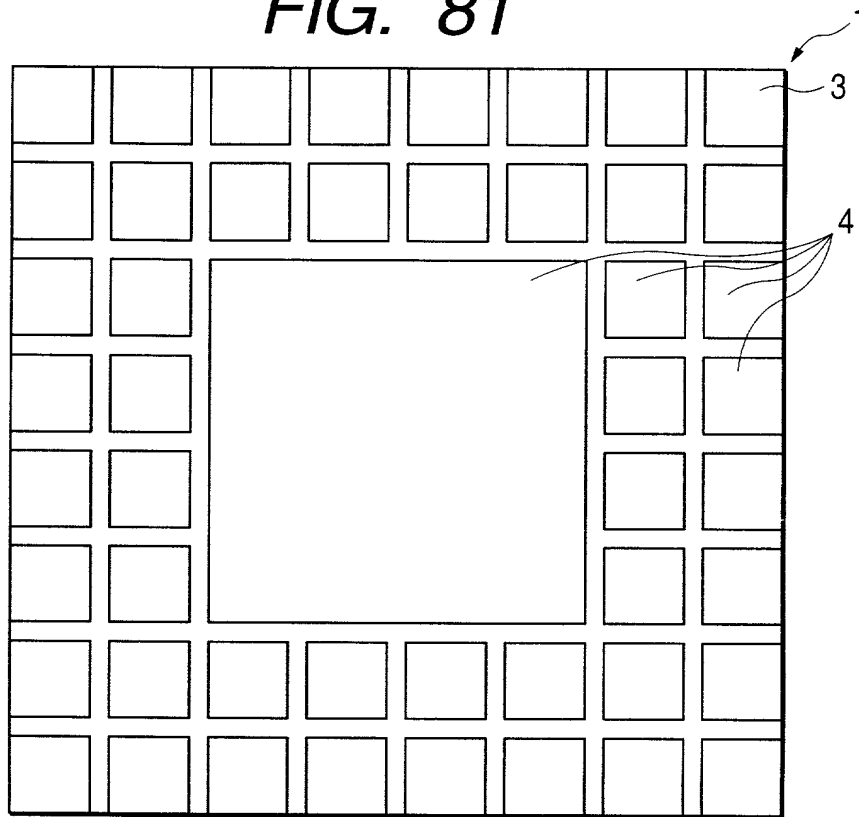
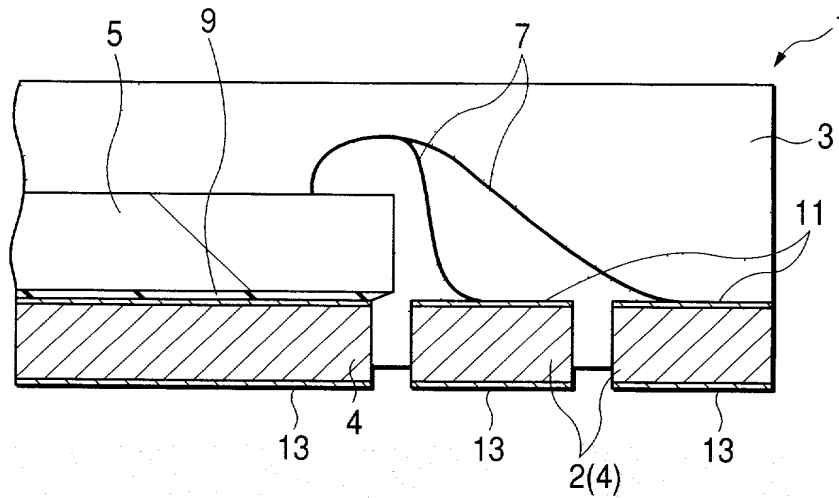
FIG. 81**FIG. 82**

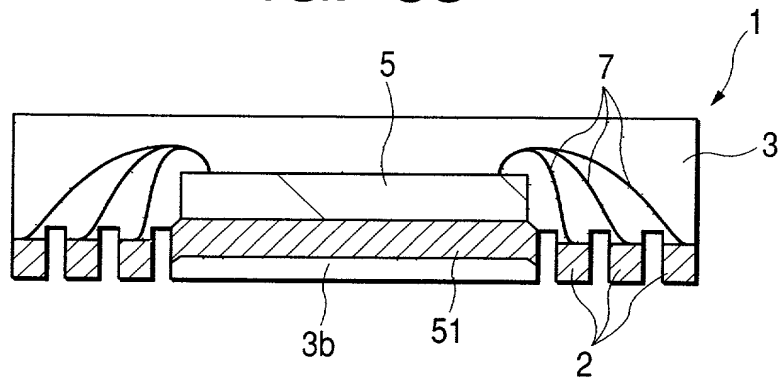
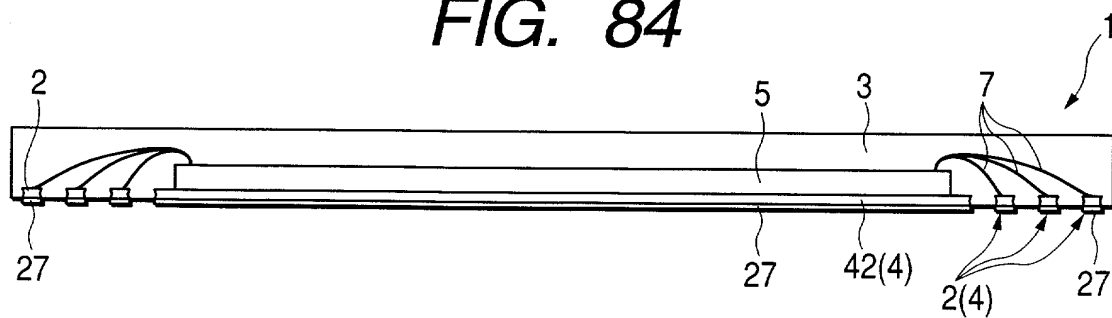
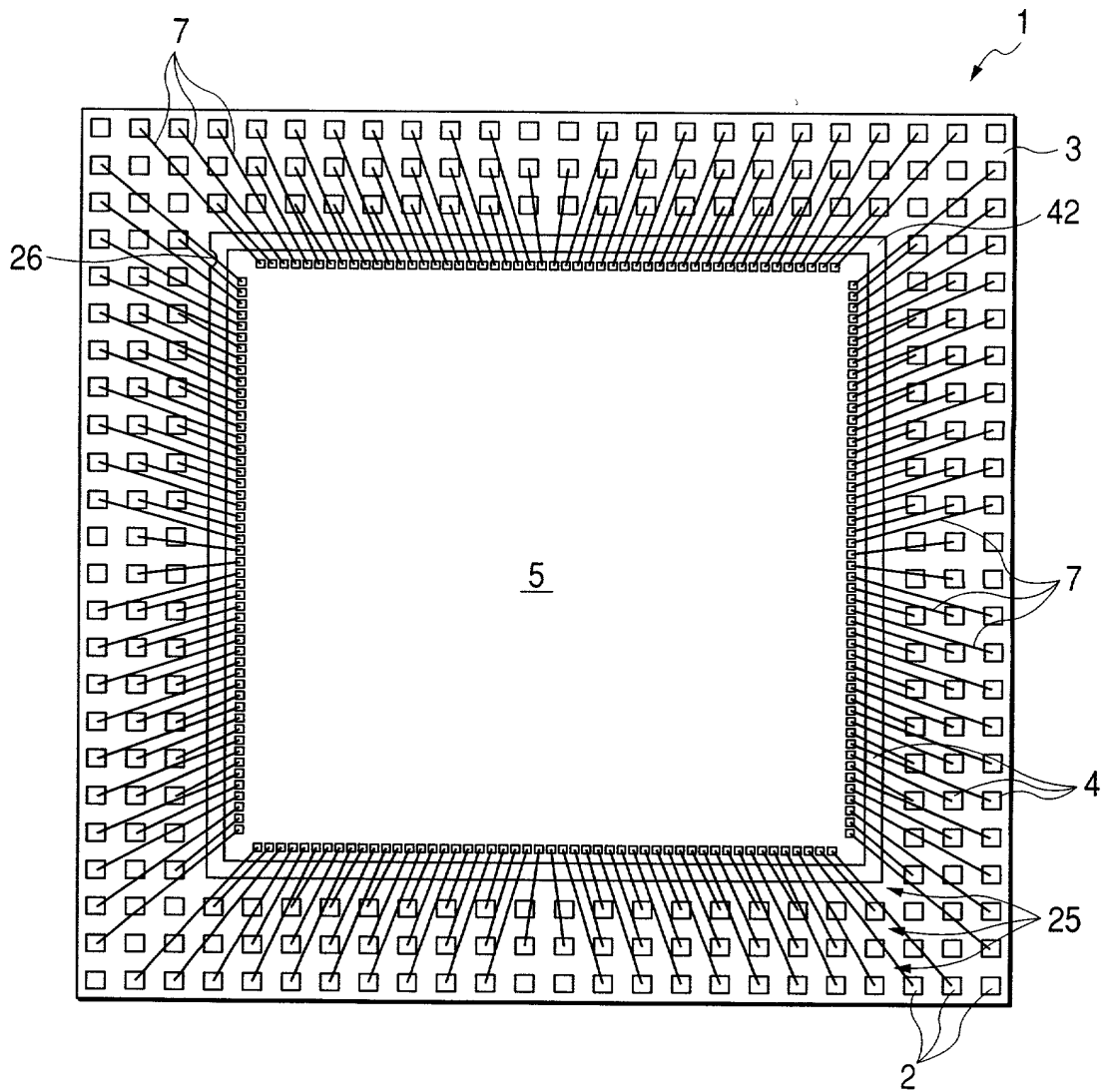
FIG. 83**FIG. 84**

FIG. 85



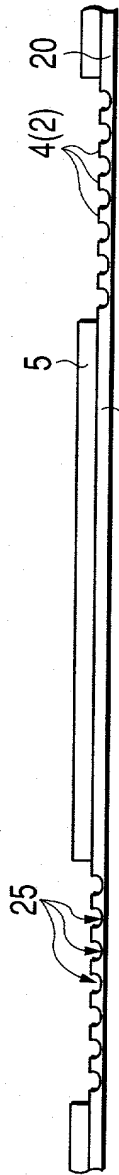


FIG. 88(a)

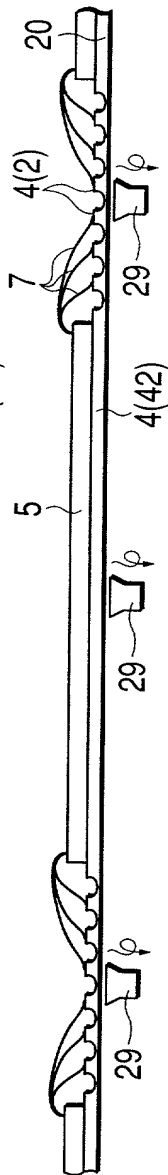


FIG. 88(b)

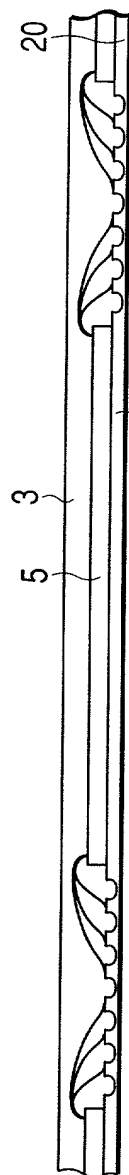


FIG. 88(c)

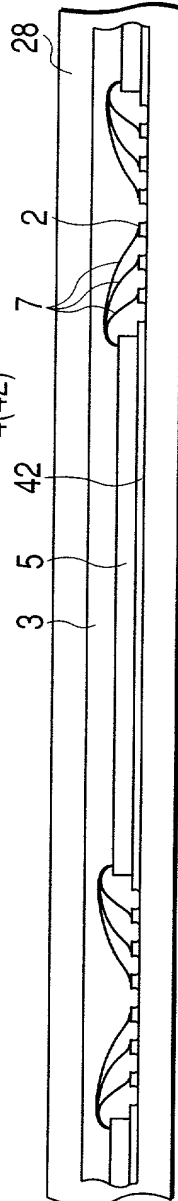


FIG. 88(d)

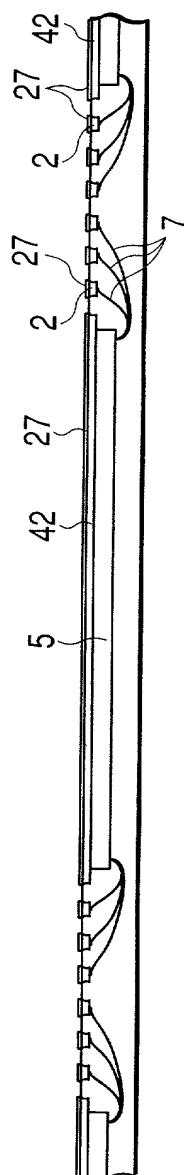


FIG. 88(e)

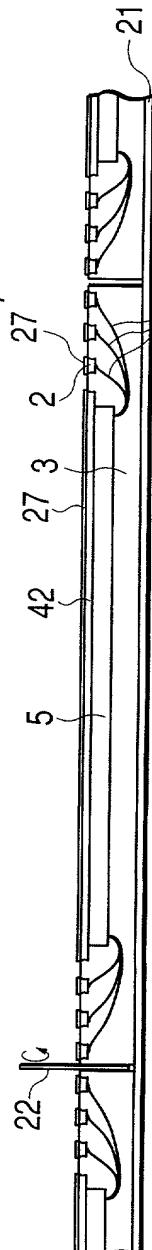


FIG. 88(f)

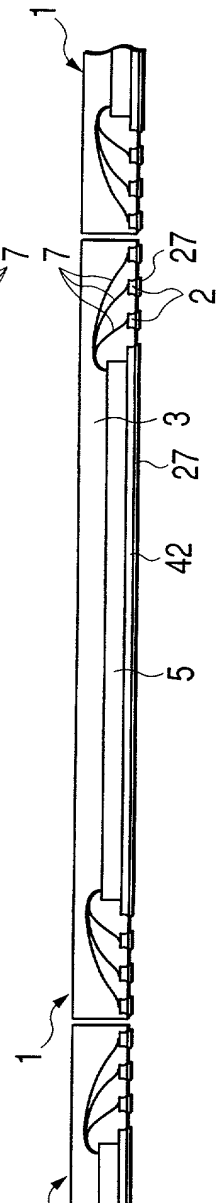
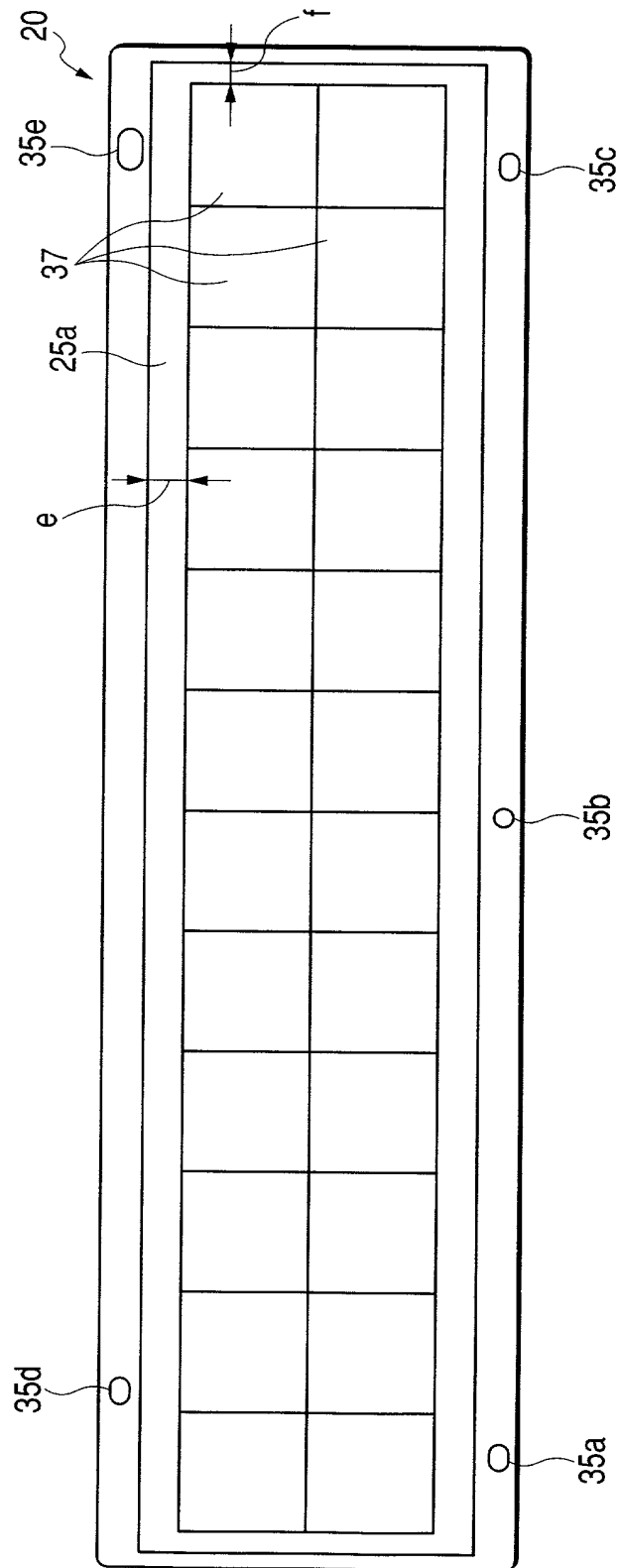
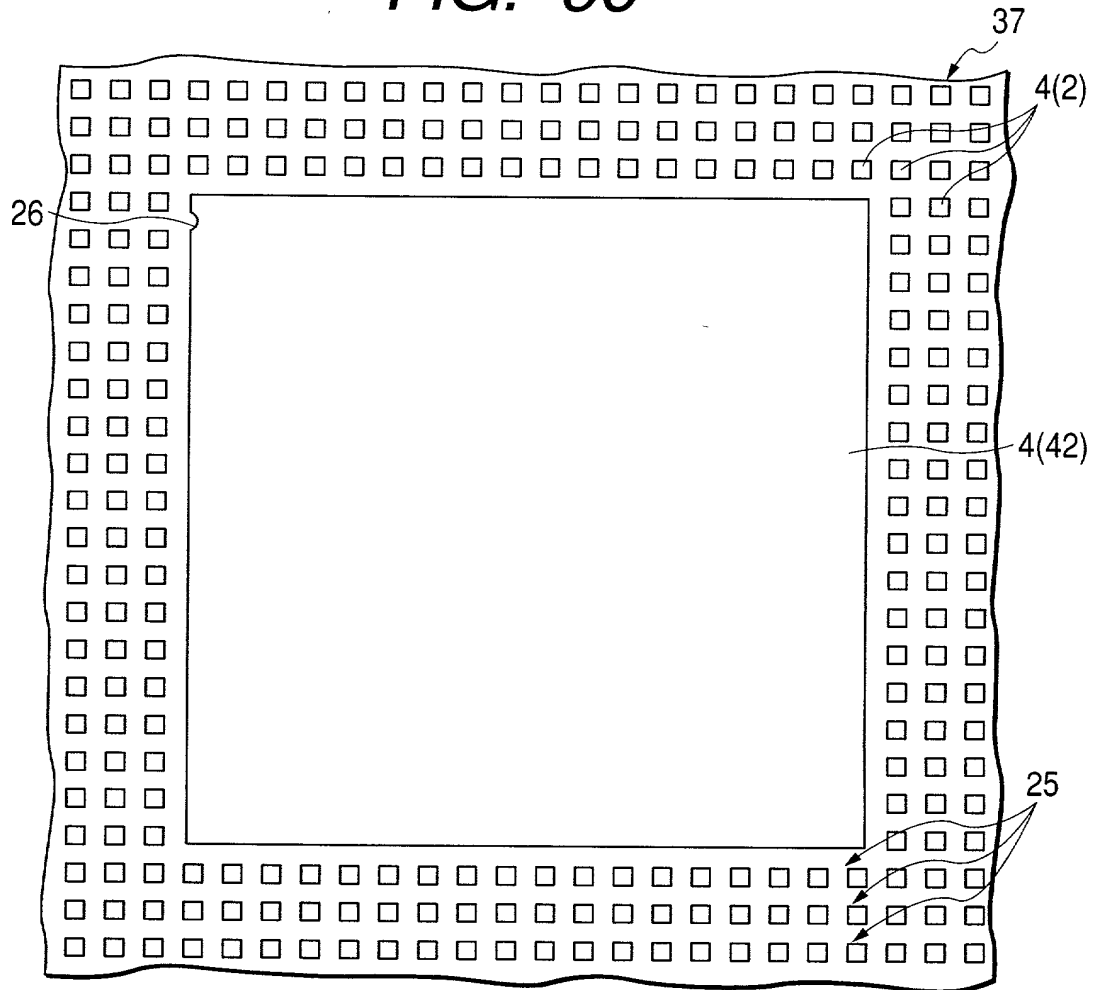
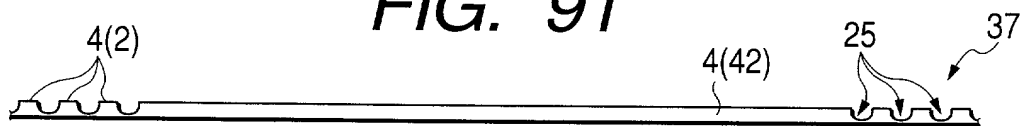
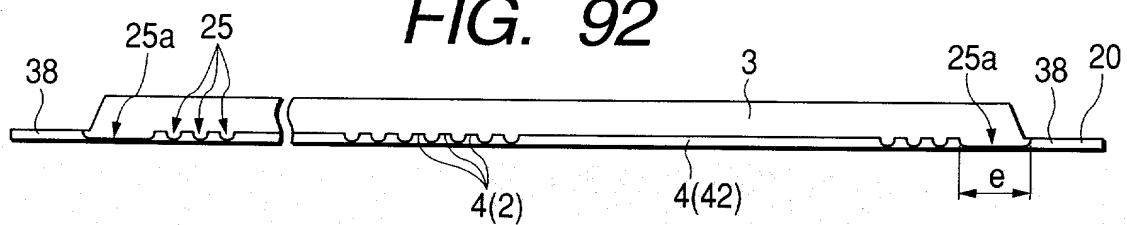


FIG. 88(g)

FIG. 89



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FIG. 90**FIG. 91****FIG. 92**

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FIG. 93(a)

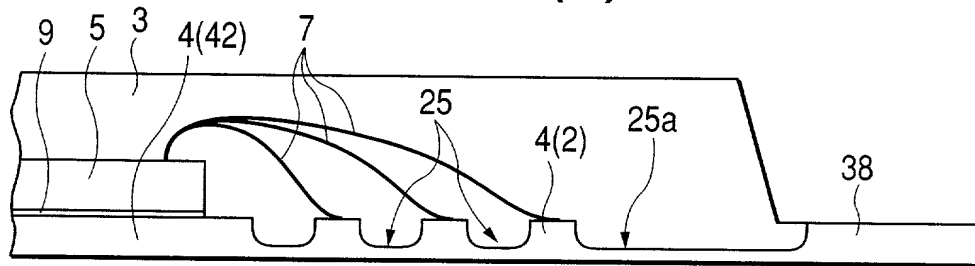


FIG. 93(b)

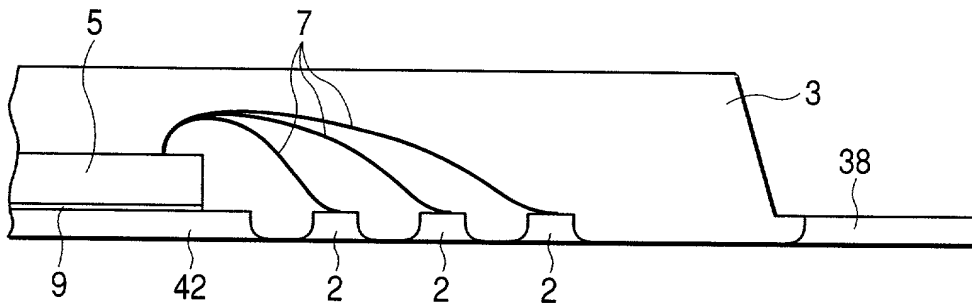
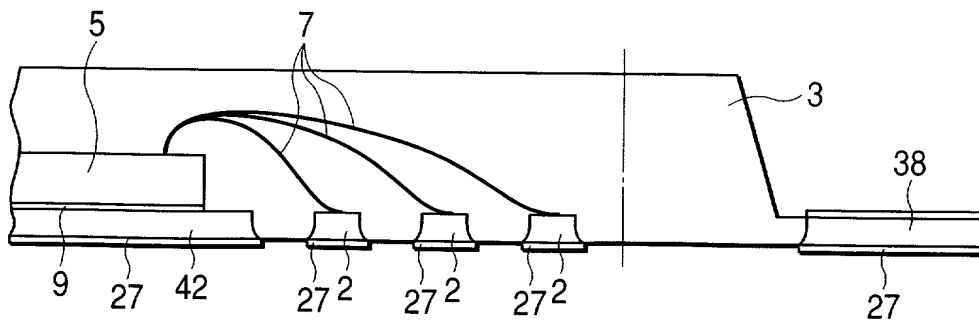


FIG. 93(c)



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FIG. 94

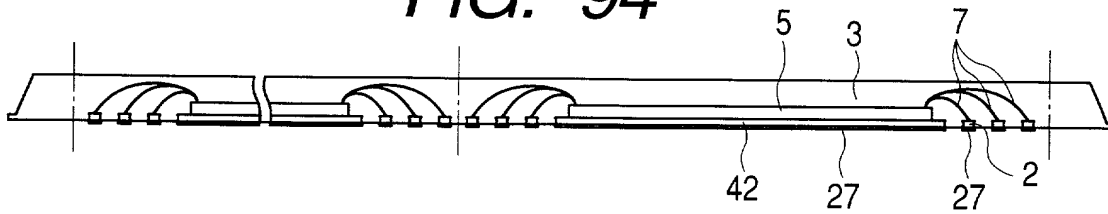


FIG. 95

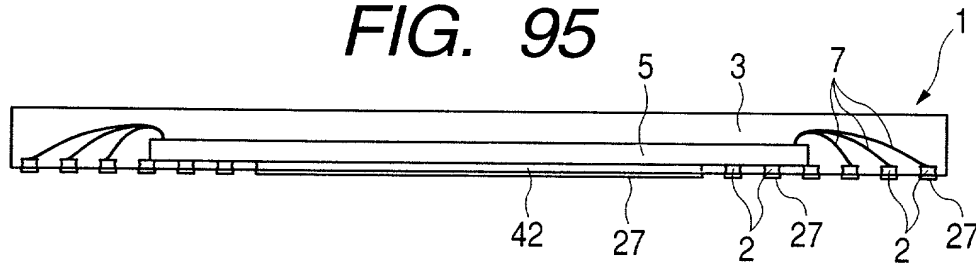
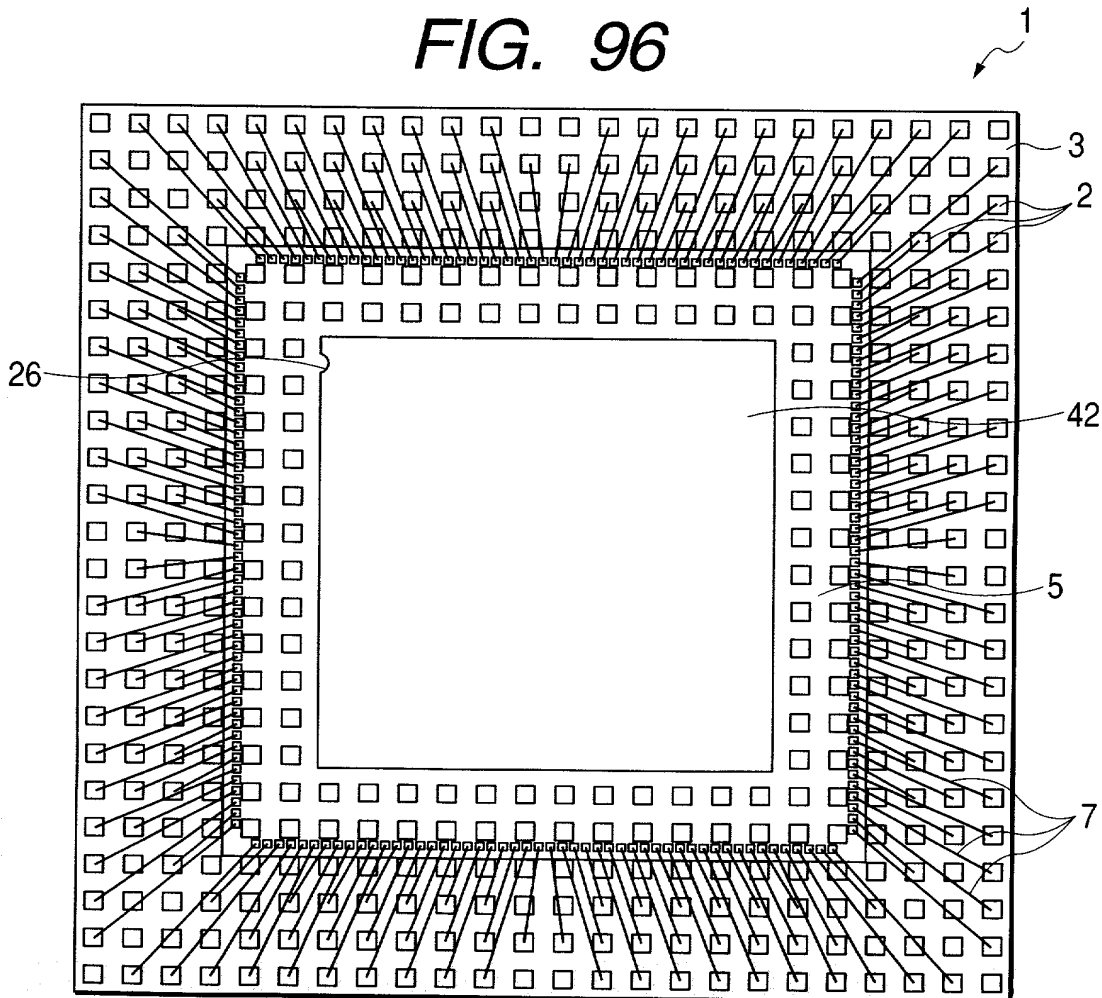
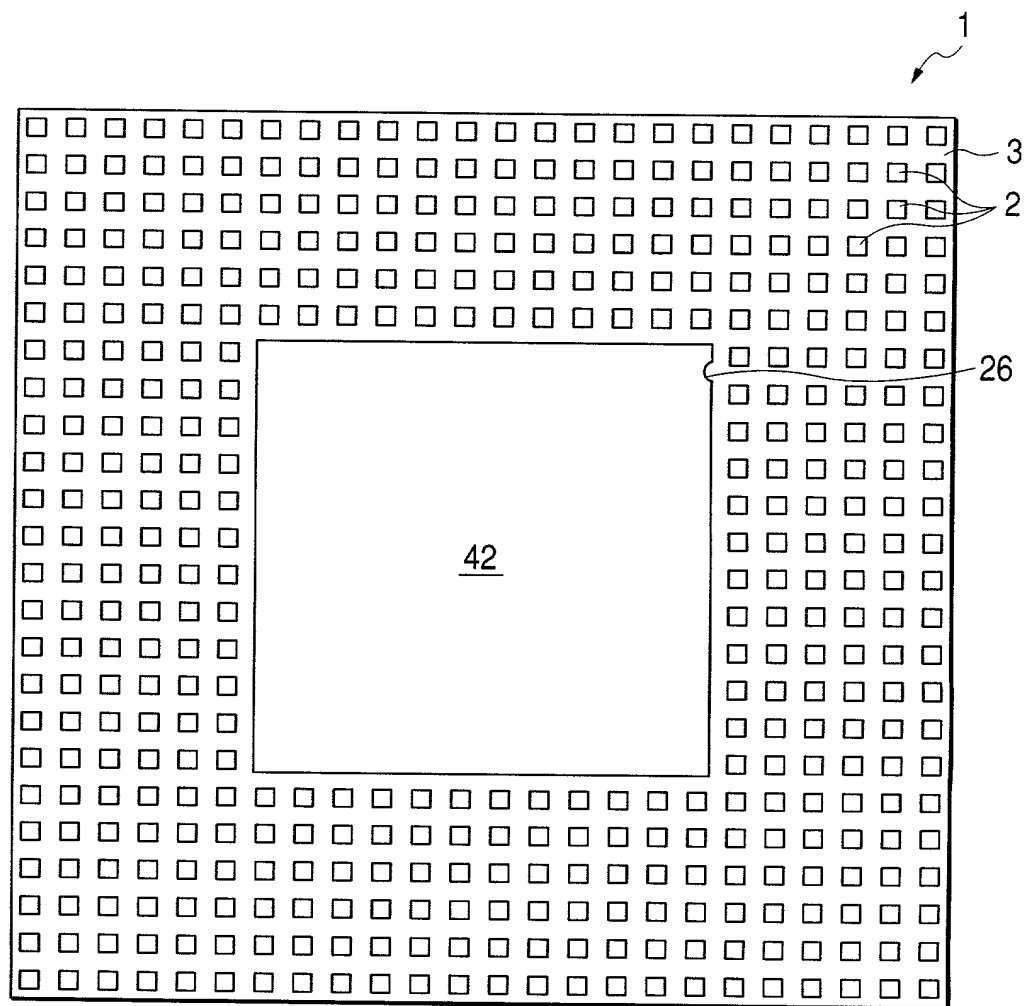
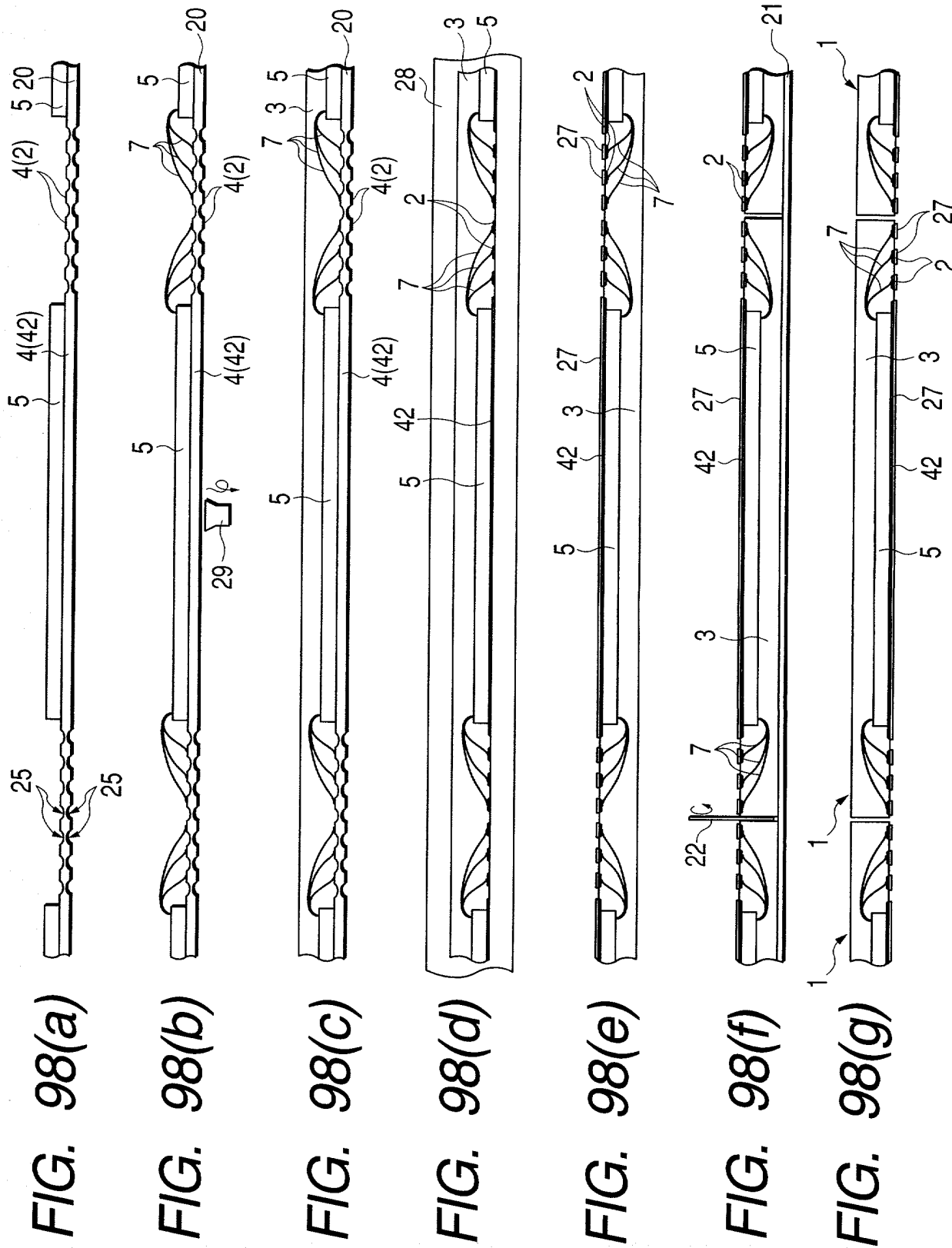


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FIG. 99

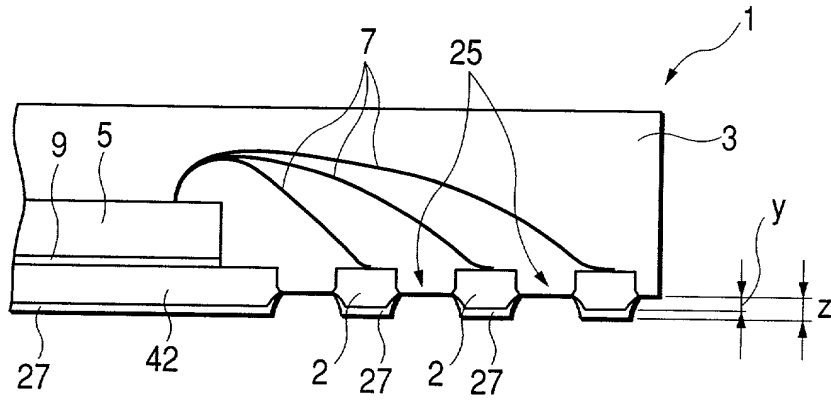


FIG. 100

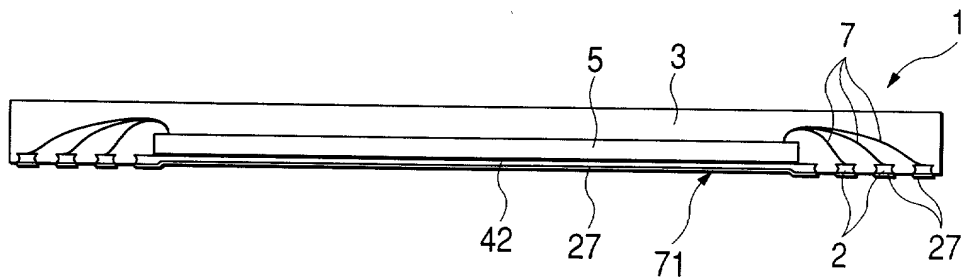
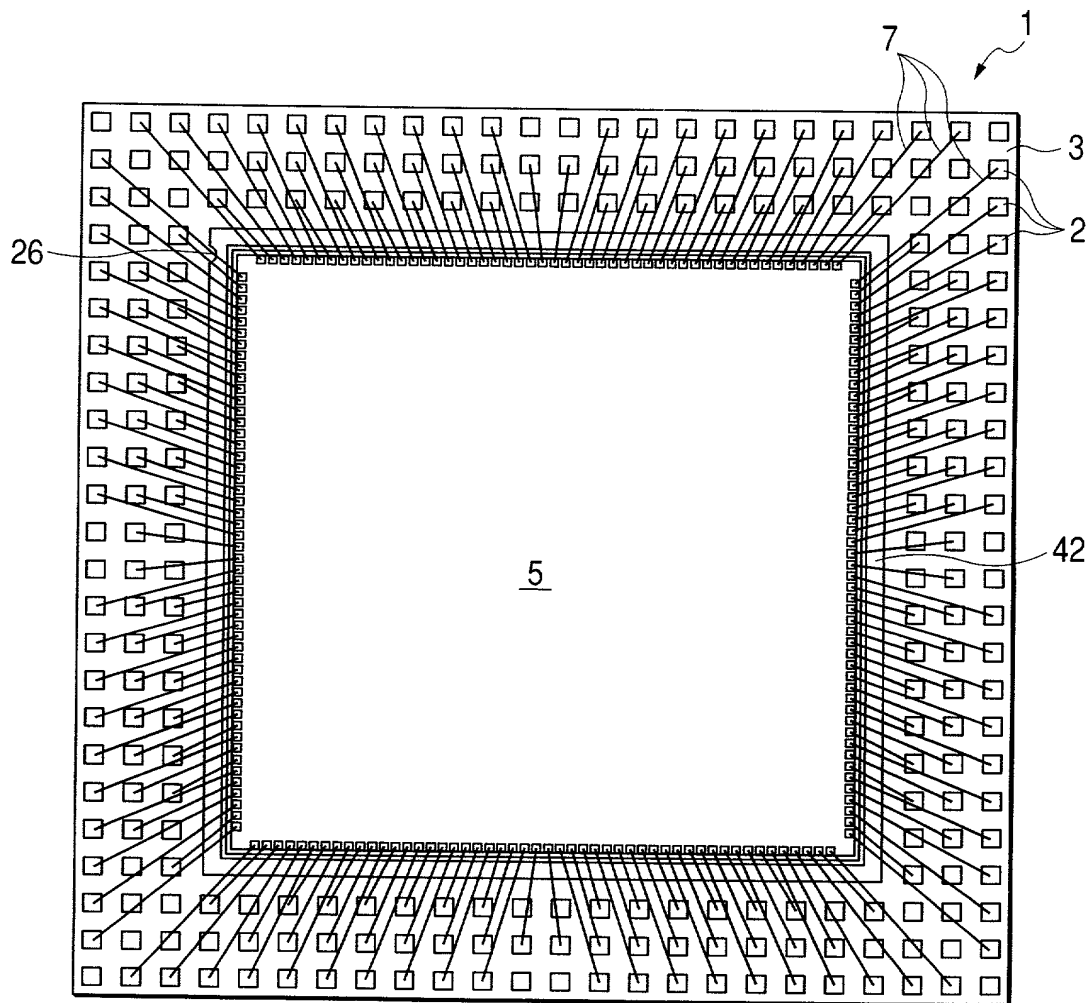


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FIG. 102

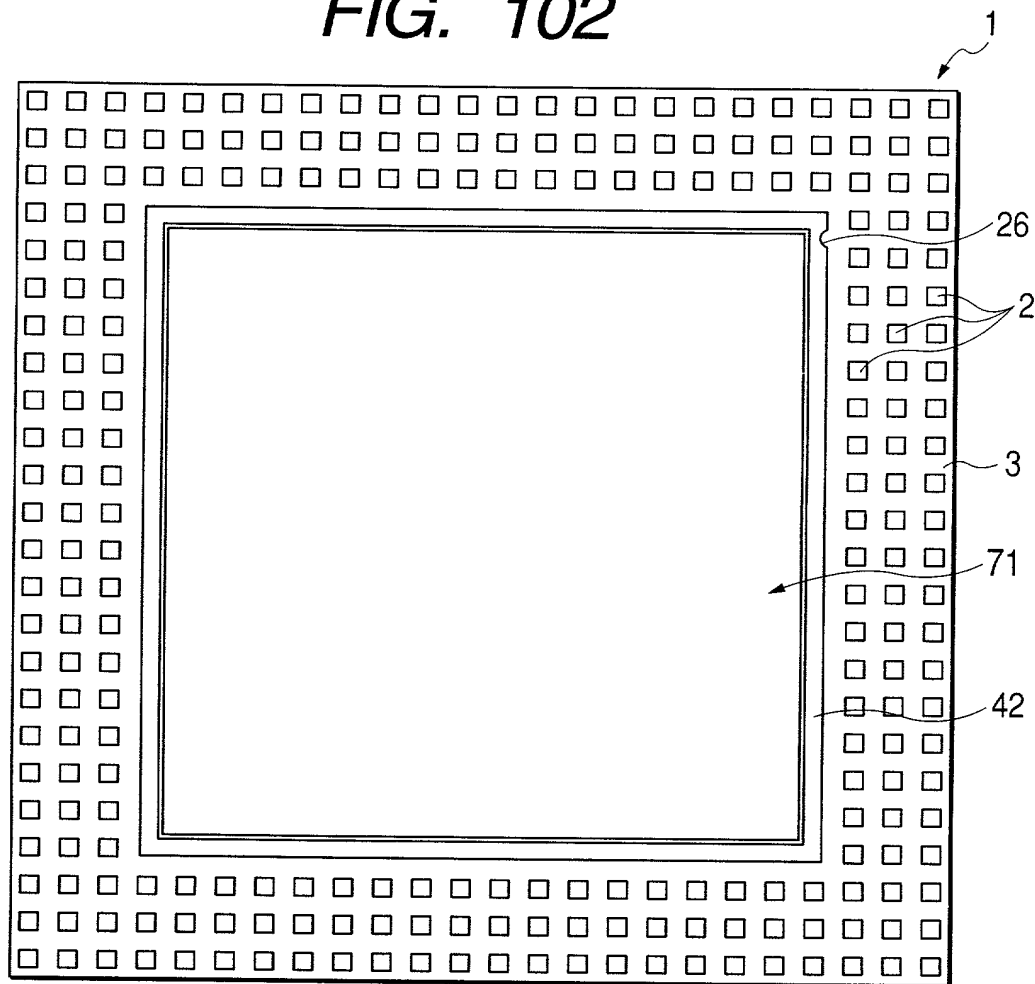
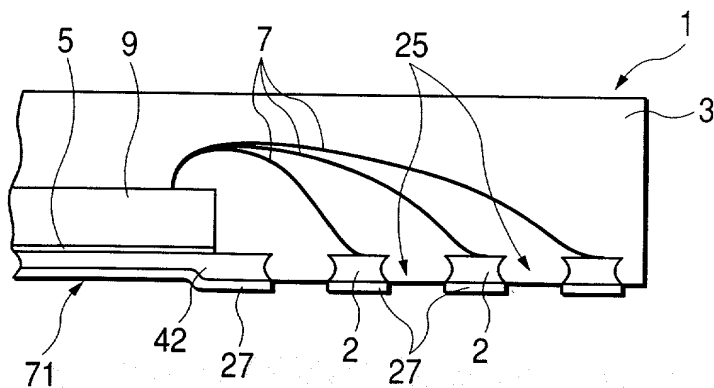


FIG. 103



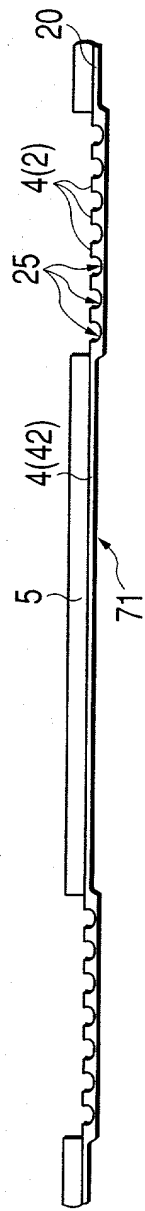


FIG. 104(a)

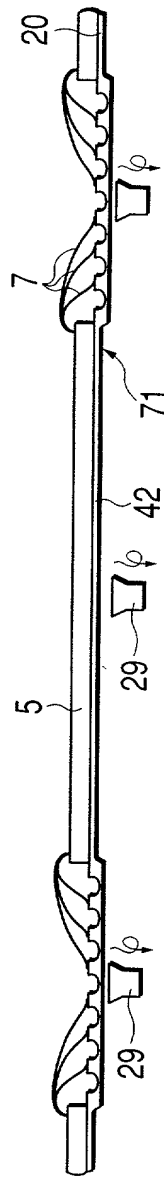


FIG. 104(b)

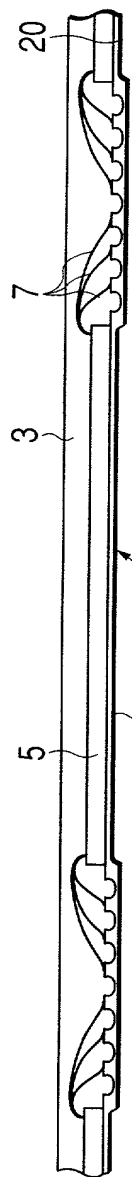


FIG. 104(c)

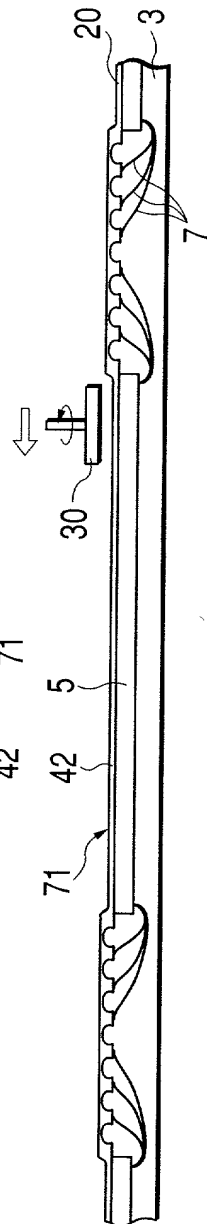


FIG. 104(d)

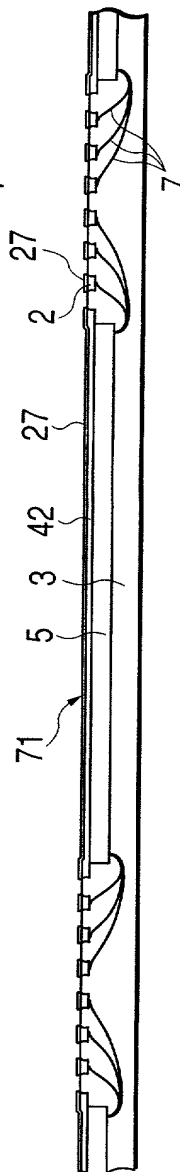


FIG. 104(e)

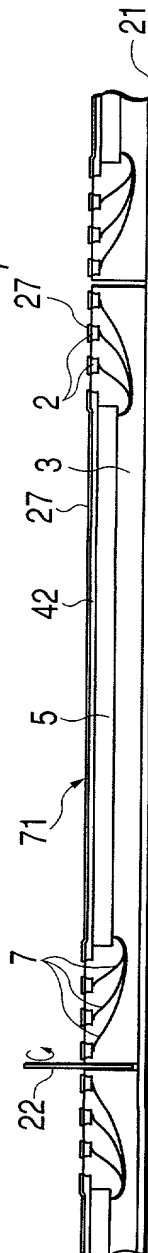


FIG. 104(f)

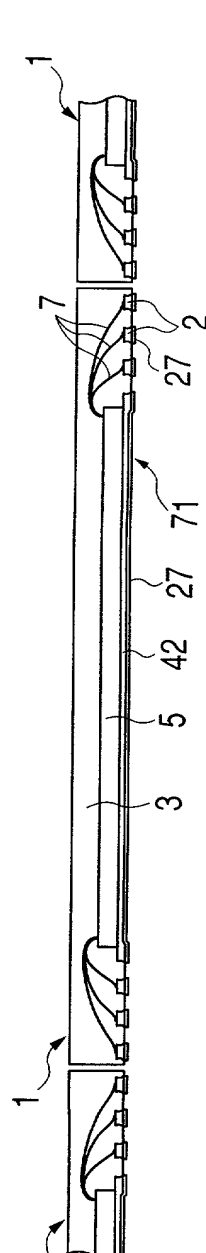
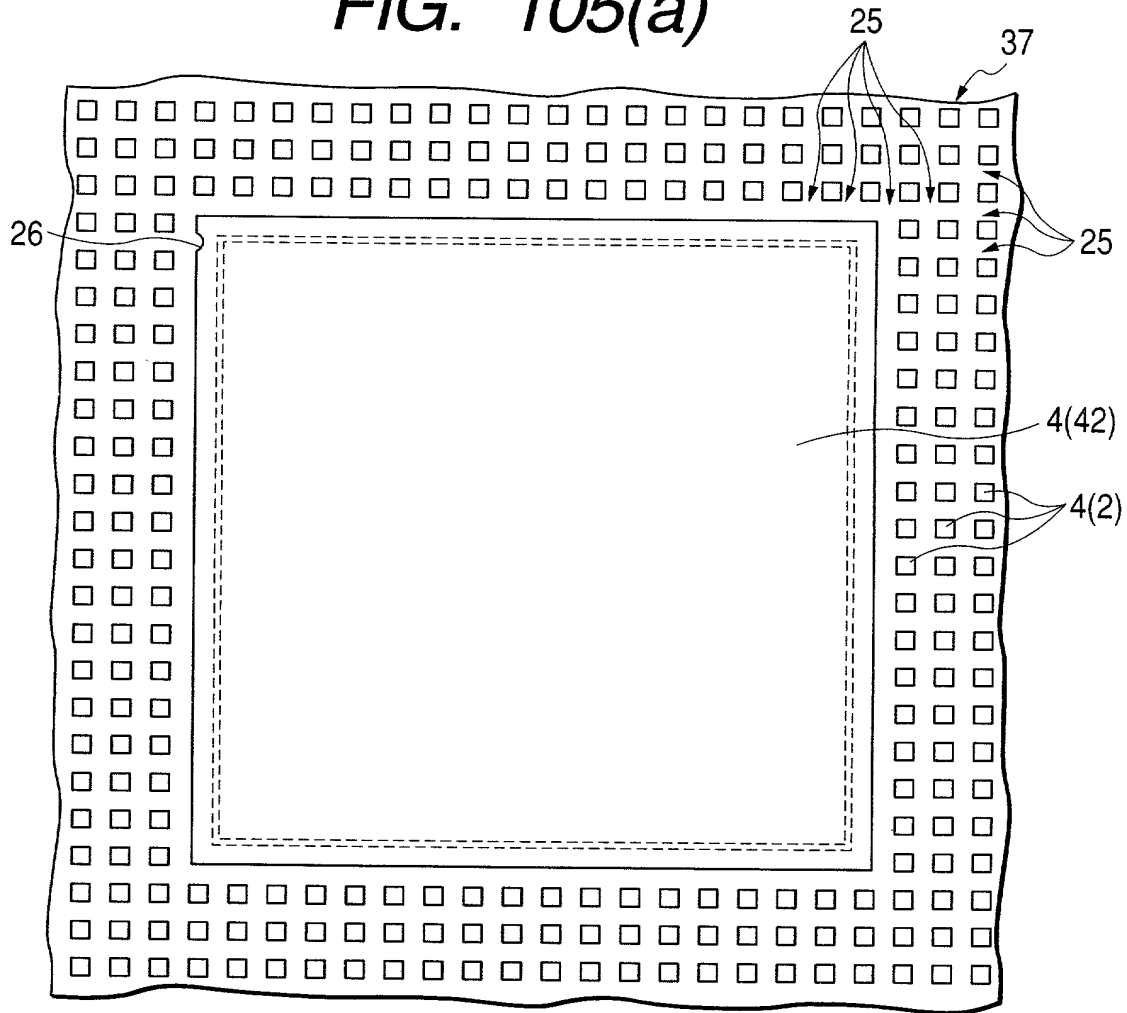
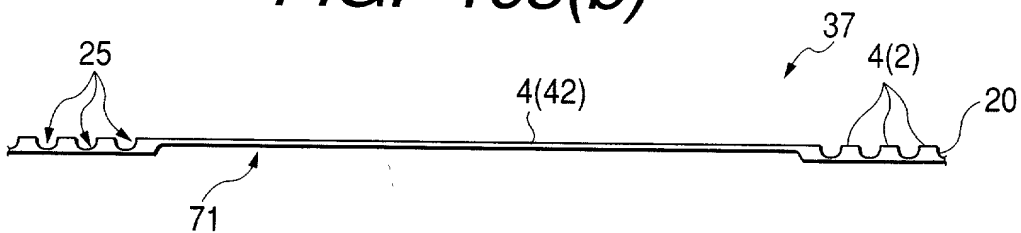


FIG. 104(g)

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FIG. 105(a)**FIG. 105(b)**

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FIG. 106

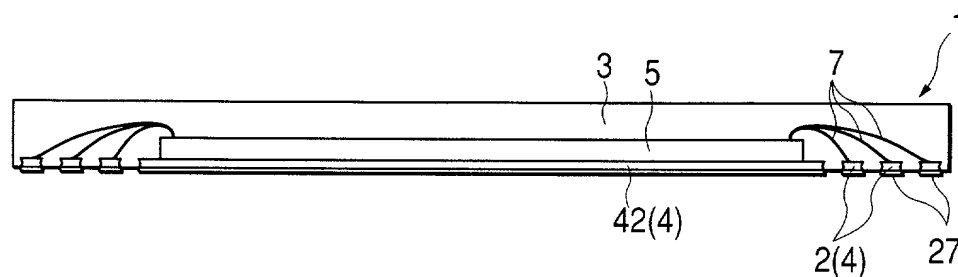
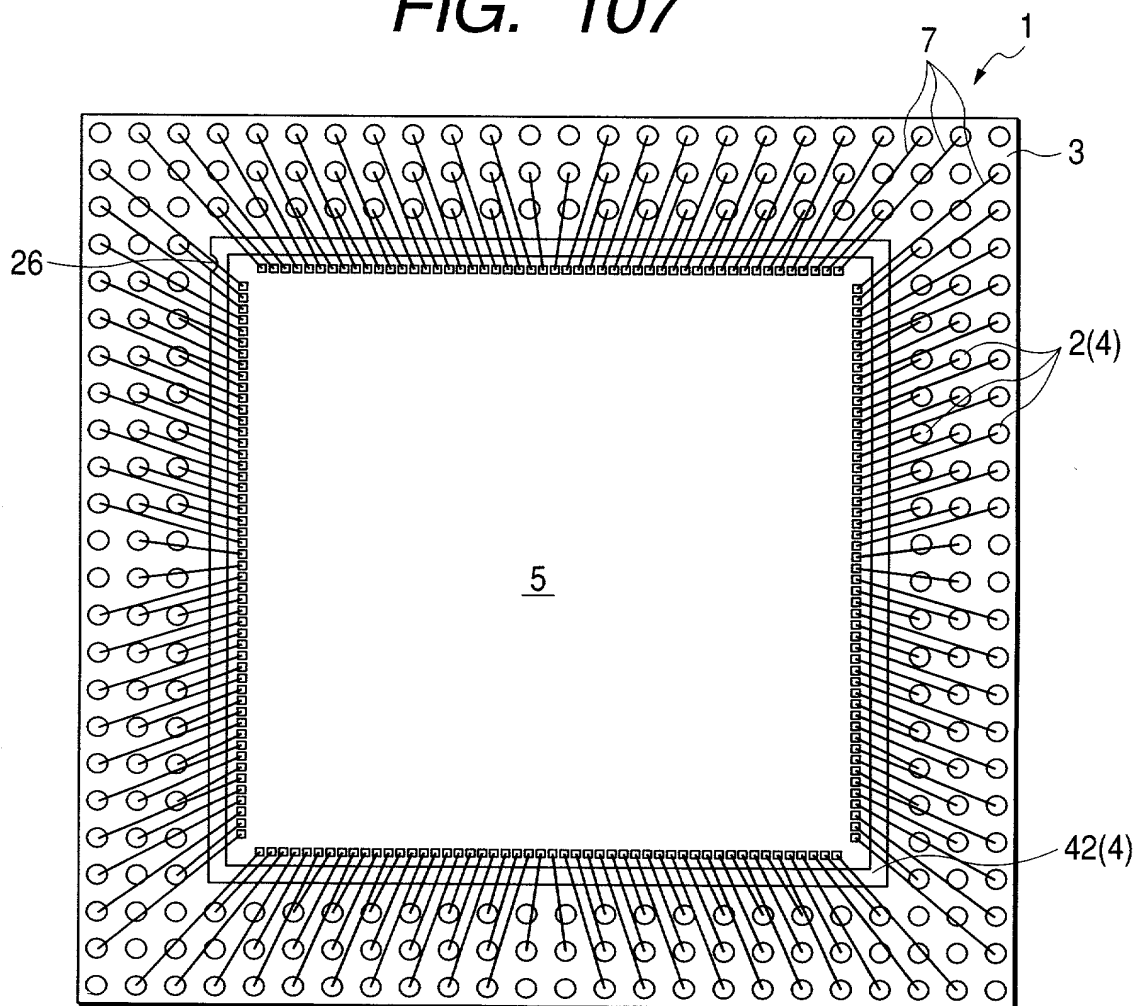


FIG. 107



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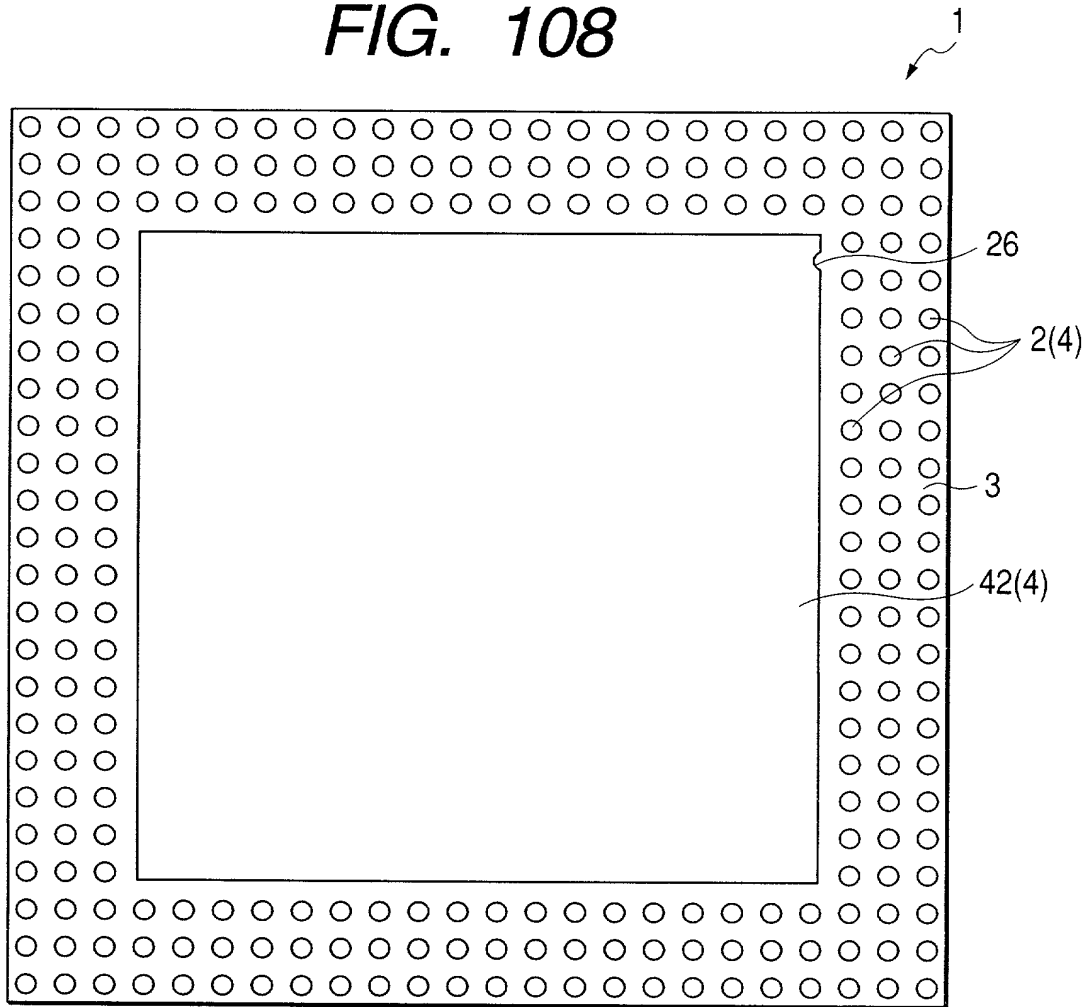
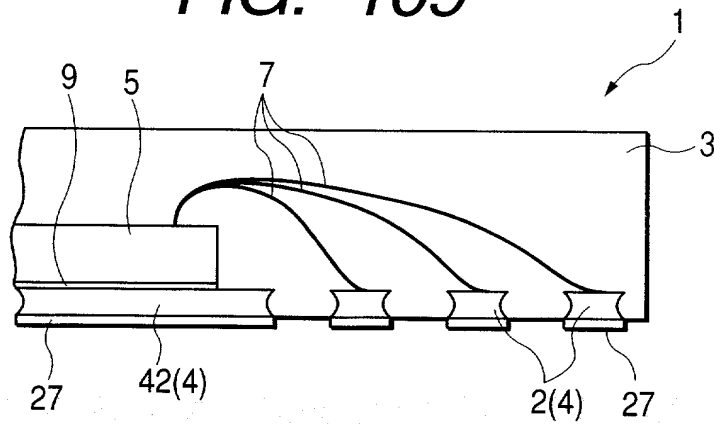
FIG. 108**FIG. 109**

FIG. 110

